REPORT OF THE

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

FISCAL YEAR
1946-1947

WATER DEPARTMENT

HETCH HETCHY WATER SUPPLY,
POWER AND UTILITIES
ENGINEERING BUREAU

BUREAU OF LIGHT, HEAT AND POWER

SAN FRANCISCO AIRPORT DEPARTMENT

MUNICIPAL RAILWAY

Compiled Under Direction
of the
PUBLIC UTILITIES COMMISSION
by
TOM IRWIN
Director
BUREAU OF PUBLIC SERVICE
AND EMPLOYEE RELATIONS

HOOPER PRINTING COMPANY
545 SANSOME STREET
SAN FRANCISCO

REPORT OF

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO

•

FISCAL YEAR 1946-1947

•

COMMISSIONERS

MARSHALL DILL
President

LLOYD S. ACKERMAN
Vice-President

THOMAS G. PLANT **W. I. KOHNKE**

DANIEL F. DEL CARLO

•

J. H. TURNER
Manager of Utilities

•

FORREST B. GIBBON
Secretary to the Manager

•

R. J. MacDONALD
Secretary to the Commission

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

May 1, 1948

Honorable Roger D. Lapham,
Mayor of the City and County of San Francisco,
City Hall,
San Francisco, California.

My dear Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual report covering activities and operations for the period beginning July 1, 1946, and ending with June 30, 1947. This will be the fifteenth annual report of the Commission to your office.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management, maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway of San Francisco, the San Francisco Water Department; the Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco Airport Department; and the Bureau of Light, Heat and Power. There are in addition three service bureaus comprising the Bureau of Accounts, the Bureau of Safety and Personnel and the Bureau of Public Service and Employee Relations.

Detailed accounts of the activities and operations of these several departments and bureaus will be found in succeeding sections of this report.

Principal personnel change in the Commission during the year was the appointment by you of Mr. Thomas G. Plant as Commissioner on January 2, 1947, replacing Sam McKee. The Commission subsequently re-elected the undersigned as president and elected Mr. Lloyd S. Ackerman as vice president, succeeding Mr. McKee in that office.

The resignations of Mr. John E. Curley, Director of the Bureau of Safety and Accident Prevention, and Mr. W. F. Mitchell, Director of the Bureau of Personnel, on November 30, 1946, and December 6, 1946, respectively, were accepted by the Commission. Subsequently, the Commission combined these two bureaus under the title of Bureau of Personnel and Safety and on April 28, 1947, appointed Mr. Paul J. Fanning as Director.

The Commission held 54 meetings during the year, in the course of which it awarded 59 contracts for work costing $5,234,585.55. Contract payments approved amounted to $7,087,186.54. During the same period, the Commission leased 24 parcels of public utility property.

Respectfully submitted

Marshall Dill

President
Public Utilities Commission

LAKE MERCED SHOWING PUMP STATION BUILT IN 1891

Two and a half billion gallons of water in a natural lake in southeast corner of the City. Plans are being drawn for construction of a new station to make these waters available for emergencies.

SAN FRANCISCO WATER DEPARTMENT

N. A. ECKART

General Manager and Chief Engineer

N. A. ECKART
General Manager and Chief Engineer
San Francisco Water Department

The past year has been one of increased construction activity. Contract awards during the year, exceeded those of the preceding year by approximately fifty per cent in dollar value, while the value of contract work completed was more than two and one half times as great as in the previous fiscal year. Plans and specifications were prepared for various additions to the water system, with work to commence during the early part of the year 1947-48. Water consumption has increased to such an extent that the principal transmission lines are taxed to their capacity. Funds must be provided in the immediate future for additional supply from Hetch Hetchy and for transmission lines from Peninsula reservoirs in order to keep ahead of the rapidly increasing use of water. To accomplish this, a $25,000,000 bond issue is being submitted at the November election for construction of an additional pipe line across the San Joaquin valley, a new line around the end of the bay from Irvington portal to Crystal Springs reservoirs, and for additional pipe lines from the Peninsula reservoirs.

Water consumption for the entire system during the year ending June 30, 1947, averaged 101.9 million gallons daily, an increase of 1.0 million gallons daily over the preceding year. Of this total, 83.3 million gallons daily were used within the City limits and the balance, 18.6 million gallons daily, was suburban consumption.

The 24-hour peak demand on the system reached a new high of 135.6 million gallons, occurring on June 21, 1947, which is 0.7 million gallons more than the previous all time 24-hour peak of 134.9 million gallons which occurred during June, 1945.

The maximum month's demand in June, 1947, averaged 117.0 million gallons daily, as compared to the previous all time high of 116.5 million gallons daily which occurred during 1945.

Net water sales for the year amounted to $10,519,351.00, an increase of $479,182.00 or 4.77 per cent over the preceding year. Gross San Francisco district sales increased $277,714.00 and the suburban sales increased $180,138.00. This increase in San Francisco gross sales for 1946-47 as against a decrease in San Francisco consumption of 0.3 million gallons daily is explained by the fact that a

15 per cent increase in water rates became effective in September, 1945. Hence, two months of the year 1945-46 were still on the former lower water rate, resulting in a lesser revenue for that year than would have resulted had the higher rate been in effect throughout the whole of that fiscal year.

The number of active consumer accounts increased from 134,525 at June 30, 1946, to 137,594 at June 30, 1947, a gain of 3,069.

The work of excavating and placing of embankments for the Sutro reservoir was completed on May 9, 1947. Our program contemplates constructing the concrete lining and roof during 1948 when funds are available and after the earth fills have stabilized themselves. When completed this reservoir will serve a new district comprising areas now served by Stanford Heights reservoir, and in a limited area, by Sunset reservoir, thus providing a materially greater reserve capacity, particularly for the Stanford Heights district. With this reservoir in service extremely high pressure in the district will be reduced to a more satisfactory pressure while improvements will be made as to lower pressure in the upper fringe of the Sunset district.

The pipe lines connecting the San Andres Outlet No. 3 with San Andres transmission lines No. 1 and No. 2 were completed on June 21, 1947. These new outlets and connecting pipe lines will allow greater flexibility in the operation of the transmission mains bringing water into San Francisco from the Peninsula, thus assuring a more positive delivery of water in the event of an interruption of service through these facilities.

A contract for the construction of the Irvington Pump Station was awarded in March, 1947, and work started in April, 1947. When completed this pumping station will boost water developed at Pleasanton Wells and Sunol Gravels into the Bay Division pipes of the Hetch Hetchy aqueduct for delivery to San Francisco and peninsula consumers.

On March 5, 1947, a decision was rendered by the U.S. District Court in connection with the United States' Navy suit condemning certain lands and underground water rights near Pleasanton, California, adjacent to the Shoemaker Naval activities. The court's decision awarded to the City a judgment of $26,196.60, which amount the City received on June 3, 1947.

WATER PRODUCTION

General Operations:

The total water used during the year amounted to 38,610 million gallons, of which 37,193 million gallons were used to supply consumers and 1,417 million gallons were delivered to the Alameda County Water District. This water was supplied from the following sources:

Local production	4,068 million gallons
Hetch Hetchy supply	22,594 million gallons
Local reserve storage	11,948 million gallons
	38,610 million gallons

Delivery from Hetch Hetchy averaged 61.9 million gallons daily, and delivery was made continuously throughout the fiscal year.

Approximately 98.7 per cent of the Hetch Hetchy delivery was brought across the bay, the remainder being diverted into the Alameda system. The total delivery

from Hetch Hetchy since completion of the aqueduct on October 18, 1934, now amounts to 147,517 million gallons, or an average of 31.8 million gallons daily.

The draft on water resources to meet consumption requirements for the year averaged 101.9 million gallons daily, an increase of 1.0 million gallons daily or 1.0 per cent over the preceding year. Consumption in San Francisco decreased 0.4 million gallons daily and suburban consumption increased 1.4 million gallons daily.

The 24-hour peak consumption for the entire system was 135.6 million gallons and occurred on June 21, and the maximum month's demand on the system, occurring in June, 1947, averaged 117.0 million gallons daily.

All water delivered to San Francisco was, as heretofore, supplied entirely from the San Andres and Crystal Springs reservoirs in San Mateo County. These reservoirs were replenished by local runoff and by water drawn from the Calaveras reservoir in Alameda and Santa Clara counties, as well as from the Hetch Hetchy system in the Sierra Nevada mountains.

Water deliveries outside of San Francisco are designated as surburban consumption. Practically all water deliveries outside the city of San Francisco are made to vendors who take large quantities at the department's transmission mains and distribute the water through their own distribution system to individual consumers. The department's water is used by practically all cities and towns in San Mateo county and by Palo Alto. The distribution systems in these communities are owned by individual cities, public utilities companies, water districts, or private individuals. Relatively small deliveries are also made from the department's transmission mains in the southerly end of Alameda county.

Rainfall, Catchment and Storage:

Rainfall on the peninsula watersheds was approximately 45 per cent below normal, while that at Calaveras was 50 per cent below normal. Deliveries from Calaveras and from the Hetch Hetchy system together with the small runoff, filled Crystal Springs reservoir to 4 inches below the spillway lip.

At the start of the fiscal year the water level in Calaveras reservoir was at gauge height 121′ 10″ and this level dropped to gauge height 100′ 9½″ in November, 1946. Due to low runoff from the watershed, the maximum water level attained, in March, 1947, was at gauge height 105′ 7½″. Draft from the reservoir caused the level to recede to gauge height 89′ 7¼″.

The seasonal gain in storage, from a low of 40,392 million gallons on February 8, to a maximum of 41,583 million gallons on April 9, amounted to only 1,191 million gallons. Surface storage in city, peninsula and Calaveras reservoirs on June 30, 1947, was 36,619 million gallons as compared to 48,567 million gallons at the end of the preceding year.

The water level in Pilot Well No. 103W in the Pleasanton well field dropped 8 feet from July 1, 1946 to June 30, 1947. Since July 1, 1943, the drop in ground water level for this well has been 37 feet. This drop in water level is due principally to heavy pumping during the past years by the Navy for the Camp Shoemaker naval activities.

The "advance release" for percolation into the Niles Cone increased during the year by 471 million gallons, making the total advance release to June 30, 1947, 24,070 million gallons. However, in the figure credit has not been taken for 3,548 million gallons of water flowing over the U.S.G.S. Gaging Station from Laguna Creek for the period September 16, 1943, to September 30, 1946, and January 1 to

June 30, 1947, during which period water in Laguna Creek was contaminated by the effluent from the Camp Parks sewage plant and was made unfit for domestic use. Of this 3,548 million gallons, 813 million gallons flowed during the fiscal year 1943-44; 1,055 million gallons in 1944-45; 1,202 million gallons during 1945-46, and 478 million gallons from July 1, 1946, to September 30, 1946, and January 1 to June 30, 1947.

Transmission:

Water consumption within the city limits required delivery of a daily average of 83.3 million gallons into the city distribution system. Of this amount an average of 37.6 million gallons daily was delivered through the 60-inch and 44-inch Crystal Springs pipe lines; 29.6 million gallons daily was delivered through the San Andres 54-inch pipe; 7.3 million gallons daily through the College Hill pipe and 8.8 million gallons daily through the Baden-Merced line.

Suburban consumption, averaging 18.6 million gallons daily, was supplied directly from the several transmission and supply lines at various points throughout the system.

An average of 34.6 million gallons daily was pumped from Crystal Springs reservoir into San Andres reservoir through the Crystal Springs aqueduct.

The two bay crossing pipe lines carried an average of 98.5 million gallons daily across San Francisco Bay. Of this amount, an average of 8.2 million gallons daily was used by consumers served from these two lines and the balance delivered into Crystal Springs reservoir. Of this total amount Hetch Hetchy supplied 62.0 and Calaveras 36.5 million gallons daily.

Reservoirs:

Calaveras reservoir was higher on July 1, 1946, than at any time during the fiscal year, with a storage of 20,794 million gallons, or approximately two-thirds the reservoir capacity. The reservoir storage dropped to 13,657 on November 19, 1946, and rose slightly to 15,161 million gallons on March 13, 1947. At the end of the fiscal year the storage in Calaveras reservoir was 10,484 million gallons, or one-third the reservoir capacity.

The gravel and silt deposited behind Alameda diversion dam was sluiced out during the short winter flood period.

The launch at Calaveras was cleaned and painted during the year.

The water level in Crystal Springs reservoir was maintained at a high level throughout most of the year by maintaining a maximum delivery of water through the bay crossing pipe lines. The very low rainfall caused little runoff into the reservoir. The minimum storage was 17,116 million gallons and occurred on February 26, 1947. This corresponds to a capacity of approximately 1,900 million gallons below the spillway lip. The peak storage of 18,878 million gallons was reached on April 15, 1947. For the first time since the acquisition of the water system by the city, no copper sulphate treatment for algae was given to Lower Crystal Springs reservoir. The upper reservoir was treated once.

The maximum storage for San Andres reservoir was 6,180 million gallons and was reached on October 7, 1946.

A total of 12,606 million gallons was pumped into San Andres reservoir from Crystal Springs during the year.

The storage of San Andres reservoir on June 30, 1947, was 4,885 million gallons.

At the start of the fiscal year the storage in Pilarcitos reservoir was 719 million gallons. The minimum storage, occurring on January 23, 1947, was 416 million gallons. The storage on June 30, 1947, was 542 million gallons. The lake was treated three times during the year for algae.

During the year Pilarcitos reservoir supplied 728 million gallons to San Andres reservoir.

Pump Operations:

No pumping was done at the Pleasanton wells, the town of Sunol being supplied by gravity from the Alameda Creek siphon through the 12-inch pipe which also serves to irrigate certain lands near Sunol.

For the ninth consecutive year it was not necessary to operate Pulgas pumping station on the Bay Crossing pipe line.

The Crystal Springs-San Andres pumps were operated continuously except for two days in the year, and pumped a total of 12,606 million gallons of water to San Andres reservoir. For a period of eight months only two units were in operation, decreasing our possible pumping by four billion gallons. A new pump connected with a ten horsepower motor was purchased and installed to maintain water pressure for chlorination purposes when the San Andres pumps are out of operation.

The Baden pumping station was not operated during the year. Landscaping of the ground around the station was started.

The Alemany pumps were operated during six months of the year and pumped a total of 2,303 million gallons from the University Mound reservoir into College Hill and Sunset reservoirs, which are normally supplied from San Andres reservoir.

Pipe Lines:

All water brought through the various lines was treated with either chlorine alone or with both chlorine and ammonia.

Portions of the Hetch Hetchy pipe line No. 1, located above ground in Alameda county, were scraped and painted during the year.

Three leaks near Newark on Hetch Hetchy pipe line No. 1, due to electrolysis, were repaired.

The Sunol pipe line from the Alameda Creek siphon to the Town of Sunol delivered a total of 76.3 million gallons of water during the year. Of this total 48.6 million gallons were used for irrigating the walnut orchard, and the balance of 27.7 million gallons was used for the Sunol domestic supply.

The Niles-Irvington pipe line was used throughout the year to carry a reverse flow of approximately one-half million gallons daily from the bay crossing pipe lines to Niles reservoir to maintain a potable supply of water in the line.

The Alameda pipe line from Niles to Centerville was used to deliver "advance release" of water to the Alameda County Water District's absorption pit north of Centerville. This section of line is maintained by the district. From Centerville to the bay the pipe is out of service other than to divert excess water into the bay.

On the west side of the bay the section of the Alameda transmission line between Burlingame and San Carlos continued to deliver Crystal Springs water to

SUTRO RESERVOIR—COMPLETED EXCAVATION AND EMBANKMENT
This reservoir at approximately 500 feet elevation adds 32,000,000 gallons capacity to the City's distributing reservoir system.

local consumers. Considerable trouble from leaks was caused during the year by a mile and two-thirds of the line in San Mateo and a half mile in the town of Belmont. Over thirty leaks occurred in these two portions of the line, and two sections blew out, causing damage to property and creating a shortage in supply to the towns of Belmont and San Carlos. Consideration must be given to providing replacement of at least portions of this line in the immediate future, as it is becoming increasingly difficult to maintain the line in operation.

The two bay crossing pipe lines carried a total of 35,961 million gallons across the bay, of which 32,970 million gallons were delivered to Crystal Springs reservoir. Only one leak in Bay Division pipe lines in San Mateo county occurred during the year.

Portions of the 60-inch line on trestles in the Cordilleras canyon were cleaned and spot-painted. Ten spans of the bay bridge and pipe in the Hetch Hetchy crossing at Dumbarton Straits were cleaned and spot-painted.

The Palo Alto pipe line delivered a total of 1,500 million gallons to consumers south of Redwood City, an average of 4.11 million gallons per day. The maximum week's demand on this line averaged 8.24 million gallons daily as compared to 6.12 million gallons daily for the maximum week's demand in the preceding year. No repairs were made to this line during the year.

Both of the Crystal Springs pipe lines were in service throughout the year, except for short periods of shutdowns in each line due to the occurrence of leaks. Four leaks occurred in the 44-inch Crystal Springs pipe line and three in the 60-inch line. The latter has been in use for the past eleven years and the former for 62 years. Some work was done around the Crystal Springs pumping station to relieve strain on some of the main gate valves due to pipe settlement on the 60-inch line. Delivery through the two Crystal Springs lines averaged 55.0 million gallons daily, of which an average of 37.6 million gallons daily was supplied for consumption to the University Mound district and the balance diverted to other districts or supplied to suburban consumers.

To reduce vandalism to the chlorine building and tunnel outlet at Bald Hill and to guard against occurrence of some serious accident, fences were constructed around both structures during the year.

San Andres Outlet No. 3 was made operative during the year as a result of laying the connecting pipes from the outlet to San Andres lines No. 1 and No. 2. A 72-inch steel pipe was laid in the outlet tunnel, with 60-inch and 54-inch lines connecting to the San Andres line No. 2 near the north outlet. A 30-inch line was laid from a point near the tunnel outlet to connect with the 44-inch San Andres line.

One large break occurred in the 30-inch section of the San Andres No. 1 line at Baden, causing considerable damage to roads, and property. The portion of the line that was repaired as a result of the break was part of the original line built in 1870, and was the same section of line where a number of bad leaks had previously occurred. The flow in this line was kept below 7.5 million gallons daily, which is the maximum flow that can be safely carried by this line. An average of approximately 7.3 million gallons per day was drawn from San Andres reservoir through this line to College Hill reservoir until the middle of April when it became necessary to also supply the Baden-Merced branch from this source. Prior to April the Baden-Merced branch was supplied from the 60-inch line leading from Crystal Springs reservoir to University Mound, but the high University Mound demand reduced the pressure at Baden to an extent where the quantity required

30-INCH STEEL PIPE CONNECTING SAN ANDRES PIPE LINES 1 AND 2 WITH OUTLET No. 3

through the Baden-Merced branch could not be maintained from the 60-inch Crystal Springs pipe line.

Water required for the College Hill district in excess of 7.3 million gallons daily delivered through the 30-inch line was made up by transferring water through the Crosstown pipe line from the San Andres 54-inch pipe or by water pumped from University Mound by the Alemany pumps.

No leaks occurred on the San Andres 54-inch pipe line during the year; the change of flow of electric current after the installation of the Crosstown pipe line connecting at Holloway Avenue in San Francisco seems to have eliminated electrolysis trouble for the time being.

Approximately 1,400 feet of the 30-inch Baden-Merced line was relocated through the Bel Mar subdivision just south of the county line. This pipe line delivered a total of 3,196 million gallons, or an average of 8.8 million gallons daily to Merced Manor reservoir. This line was supplied by diverting water at Baden from the Crystal Springs and San Andres pipe lines.

Aqueducts:

The Sunol aqueduct was used throughout the year to carry water from the Sunol filter galleries to the Niles reservoir from which point it was made available as delivery to the Alameda County Water District. No maintenance other than fire guarding was required.

The Crystal Springs aqueduct was in operation during the entire year, with no serious trouble occurring.

The Pilarcitos aqueduct operated throughout the year, but due to the exceptionally dry year the 40 million gallon per day capacity aqueduct carried an average of only two million gallons per day.

The Stone Dam feeder flume was partially overhauled but no work was done on the main flume as plans are underway to replace Section No. 1 during the fall of 1947.

Peninsula General:

The machinery and equipment in the Millbrae pumping station was sold as junk during the year. A portion of the building was remodeled to provide some space for a field engineering office.

The sewage disposal service line for the Millbrae yard area was connected to the new Millbrae-Capuchino sanitary district line to stop the flow of sewage into a slough which now is a portion of the airport property.

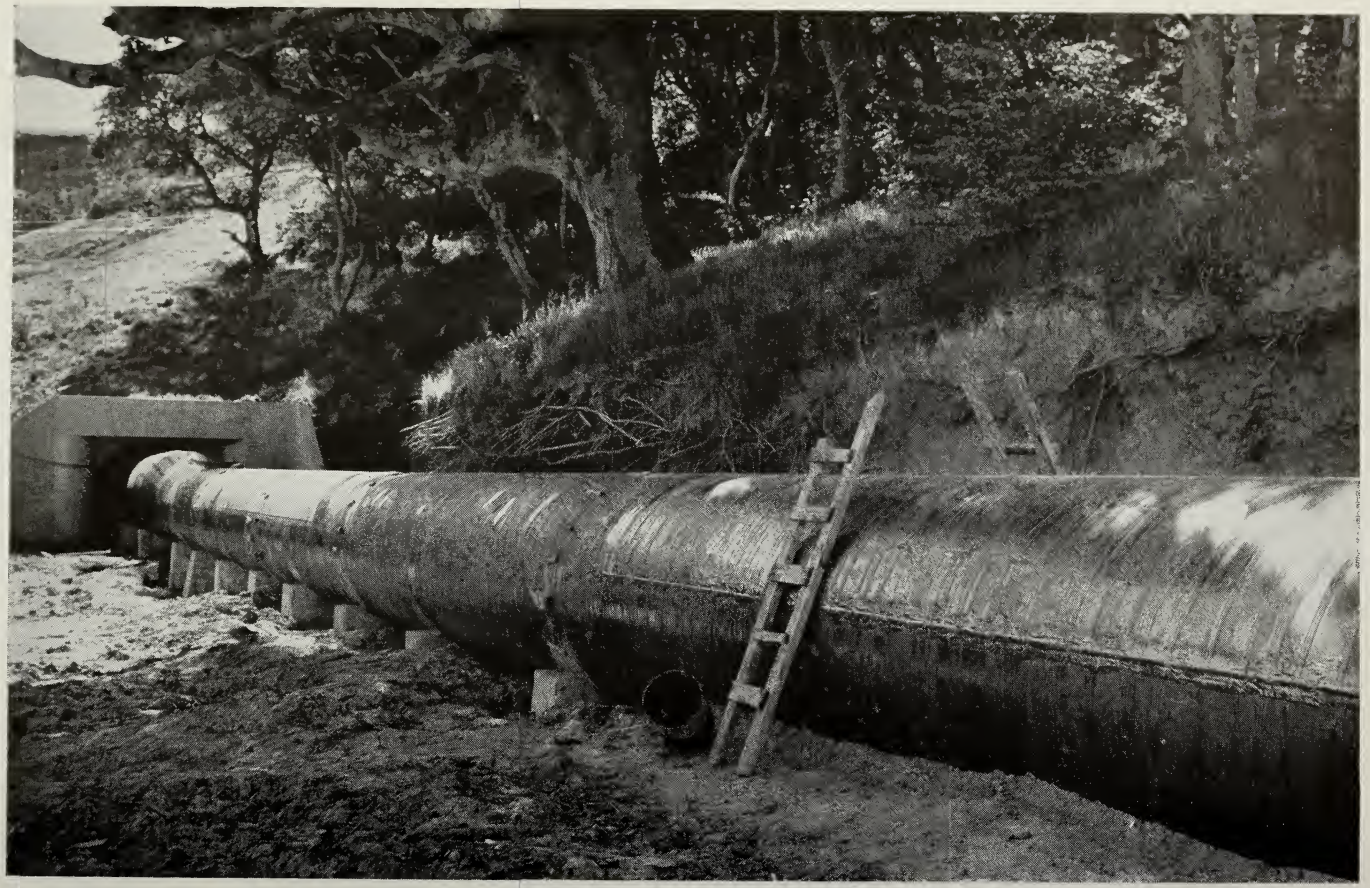
The spur track to the east of the Southern Pacific line adjacent to the Millbrae yard was repaired to allow for the unloading of approximately two miles of 60-inch diameter steel pipe purchased from the War Assets Corporation for use in the new Sunset supply line.

A new storehouse was built by contract in the Millbrae yard to replace the old pipe dipping shed which was destroyed by fire in May, 1945.

The employee cottage at Belmont was moved to a new nearby location due to the sale of the major portion of the Belmont property.

Alameda General:

Inspection of the Upper Alameda Creek tunnel showed it to be in good condition.



TUNNEL PORTAL TO SAN ANDRES OUTLET No. 3
Showing 72-inch and 60-inch steel pipe which constitutes south end of new San Andres-Sunset supply line.

Fire guarding, road maintenance, building and repairing of fences, brush cutting and general cleanup was done throughout the watershed area to the extent that labor was available.

Gauge height records of the flow in Mocho, Del Valle, Costa, Laguna-Alameda creeks was carried out as in past years.

Alameda County Water District:

A total of 1,417 million gallons was released during the year to the Alameda County Water District to replenish the underground gravel of the Niles Cone area. Of this amount, 468 million gallons were due the district under terms of the 1920 award and 949 million gallons delivered as "advance release" under terms of the 1936 agreement. The total of computed "advance release" to June 30, 1947, amounts to 27,618 million gallons.

In arriving at an advance release of 24,070 million gallons no credit has been taken for the dry season flow over the U.S.G.S. Niles gaging station between September 16, 1943, and June 30, 1947, amounting to 3,548 million gallons. From September 16, 1943, to September 30, 1946, this dry season flow was definitely contaminated by the effluent from the Camp Parks sewage plant and unfit for domestic use. Although there was practically no flood flow between January and June, 1947, no credit was taken for flow over the U.S.G.S. Niles gaging station during this period.

Of the past year's release, 801 million gallons were delivered through the Alameda pipe line to the district's absorption pit near Centerville and a total of 616 million gallons percolated from the water released into Alameda Creek, including 468 million gallons due the district.

The district continued throughout the year to augment its domestic supply with water purchased from the department.

Pleasanton Township County Water District:

The U.S. Navy's activities at Camp Shoemaker were largely curtailed and were practically eliminated by the end of the fiscal year. However, a portion of the camp was taken over by the Sheriff of Alameda County and is continuing to be used as a jail farm. All this resulted in a more or less gradual decrease in the quantity of water taken from the Pleasanton underground supply for use at Camp Shoemaker until the draft at the end of June, 1947, averaged some 700,000 gallons per day. No water was taken from the department's Pleasanton wells for export during the year but, due to the Navy draft and the irrigation draft, together with a winter of only slight replenishment, the water level in this area showed a further recession over the previous year. On June 30, 1947, the water table in Pilot Well No. 103W was 60 feet below ground surface as against 52 feet below ground surface on June 30, 1946. On June 30, 1947, the water level in Well No. F-28 was 30 feet below ground surface as against 26 feet at the end of the previous fiscal year.

Due to the lowered water table the department's obligation of furnishing water to the town of Pleasanton and paying electric charges for operating landowners' wells has continued.

The town of Pleasanton continued to obtain all its water supply from the Water Department's wells throughout the year and has paid all the resulting power bills even though for most of the year the water level was at an elevation where the Water Department is required to supply the town with water, it being the tacit

understanding that the town's use of the department's wells offset any excess amount of power bills that Pleasanton might pay.

Outside Meters:

There were 50 new services installed during the year for suburban consumers. The total number of suburban connections at the close of the year was 1,004, of which 729 were active consumers. This was an increase of thirty active consumers for the year.

Gross suburban water sales for the past year amounted to $1,307,769, which was an increase of 16.0 per cent over the preceding year.

CITY DISTRIBUTION DIVISION

Water Consumption:

The average daily consumption for the entire system was 101,888,505 gallons and 83,314,581 gallons within the city limits. This is a decrease of 388,243 gallons per day, or 0.46 per cent, over the previous fiscal year. All of this decrease in the city came in the two industrial districts. In the University Mound district, which contains most of the industries, the decrease was 3,098,457 gallons per day, or 9.0 per cent. In the College Hill district, which is for the most part residential but containing some industry, the loss was 12,419 gallons per day, or 0.14 per cent over the previous year.

In the residential districts the increase in consumption was above normal. Lake Honda, the largest residential district, had an increase of 2,097,118 gallons, which is 7.2 per cent. In Stanford Heights the increase was 420,597 gallons, 4.4 per cent, while in the two smaller districts, Forest Hill had an increase of 47,044 gallons, 7 per cent, and Merced Manor an increase of 157,874 gallons, 17.5 per cent.

Operating Conditions:

This increase in consumption in the residential areas taxed the capacity of certain of our feeder mains, producing complaints of low pressure and no water during the summer, some of which became acute during the warm weather periods this year. The capacity of the twenty inch pipe line supplying the Presidio Heights area became entirely inadequate during protracted warm spells and for several weeks the district received an insufficient supply of water until an emergency pump could be installed to provide temporary relief. The Wilde Avenue district outgrew the capacity of its supply and an additional temporary pump was installed to tide over until the necessary pipe can be laid. The pressure in the area in the University Mound district for a block or two west of Van Ness Avenue has again dropped too low for proper supply to the buildings. The solution to the Presidio Heights supply is the completion of the Sutro reservoir and its pipe system. This new district will take sixty per cent of the load off the Stanford Heights district and will leave that district pipe system adequate for the area it serves. The new work includes the construction of a new line to the Presidio Heights area, the supply to come from the Sutro reservoir.

The Merced Manor district has also outgrown its distributing system, particularly in the area between Taraval Street and Golden Gate Park.

The relation between the consumption in the various districts and the latest additions to the primary mains in that district is as follows:

In Forest Hill the last work was done in 1933 when the consumption was 233,000 gallons a day. Today the consumption is 716,000 gallons, or over 300 per cent of the 1933 figure.

In Stanford Heights the last primary mains were laid in 1929, when the consumption was 4½ million gallons. Today it is 10 million gallons, or 220 per cent of the 1929 use.

Lake Honda served 19.8 million gallons in 1926 when the last large mains were laid. Today it uses 31.1 million gallons, or 158 per cent of the 1929 use.

In College Hill the last primary main was laid in 1936 when the consumption was 6.6 million gallons. Today it is 9 million gallons, 136 per cent.

University Mound had its last large main laid in 1936 when the consumption was 18 million gallons. Today it is 31.6 million gallons, 175 per cent of the 1936 figure.

Merced Manor has never had any primary or secondary mains laid since it was formed in 1936. Then it used 233,000 gallons. Today it consumes 1,059,000 gallons, four and a half times as much.

The greatest immediate need for improvement of the distribution system is the completion of the Sutro project, but some regular program must be followed for financing the necessary additional large feeder pipes in the city. A bond issue is being submitted for bringing more water into the city, but we must not lose sight of the necessity for providing a sound plan for financing from revenue the necessary primary and secondary feeder mains to distribute the water to the grid system after it is delivered to the reservoirs.

Transmission Mains:

The College Hill line is in bad condition and gave considerable trouble during the year. The other transmission lines were operated during the year and are in good condition considering their age.

City Reservoirs:

All tanks and reservoirs have had the usual maintenance and are in generally good condition. Painting Forest Hill steel tank was completed at a cost of $2,140.00 in August, 1946. College Hill reservoir was cleaned in November, 1946.

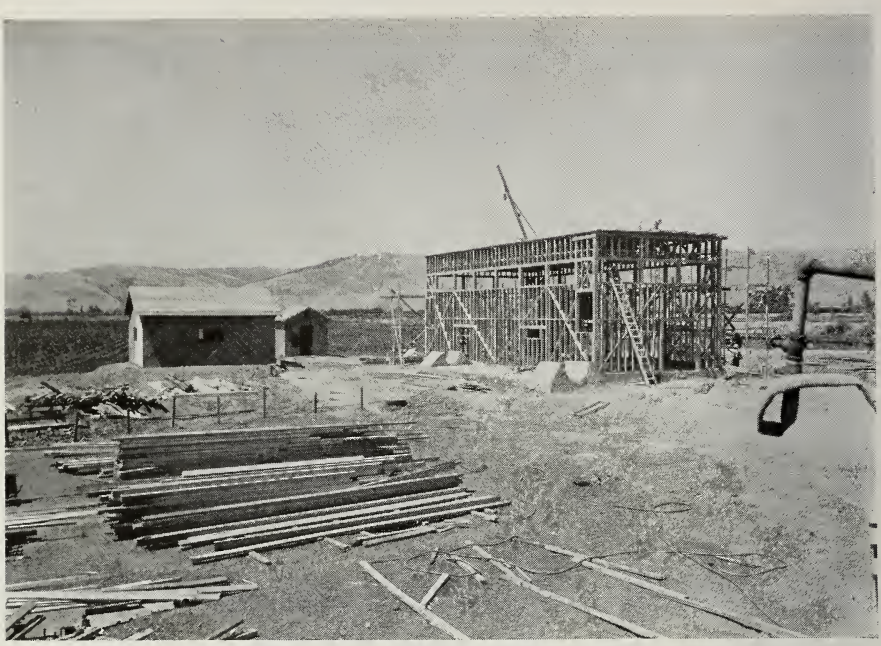
The excavation and embankment for the basin of the Sutro reservoir was completed in May, 1947, at a cost of $168,629.13. The concrete lining and roof will be constructed as soon as adequate funds are available, probably during 1948.

Lake Merced:

No water was drawn from the lake during the year. A new lease for the boating and fishing concession was entered into with Charles Kay and Michael Schrum on March 1, 1947. These men are now operating the concession.

Pumping Stations:

The Alemany pumping station was operated until October 22, 1946, when it was shut down for the winter months. It was again started on April 7, 1947, and will operate until the rainy season makes it no longer necessary.



IRVINGTON PUMP STATION UNDER WAY

Station will boost water developed at Pleasanton Wells and Sunol gravels into Bay Division pipes of Hetch Hetchy aqueduct.

Central Pumps operated throughout the year, pumping a total of 3,644,955,000 gallons, an average of 9,986,178 gallons per day.

Two new pumps have been ordered for the Forest Hill-Laguna Honda pumping station, which will give them the necessary capacity for the time being.

The increased consumption in the Presidio Heights district, which could not be adequately supplied by the pipe from the Stanford Heights reservoir, made necessary the installation of a temporary pump at the Francisco reservoir. This pump operates from six in the morning until noon during the period of heavy seasonal draft and maintains adequate pressure in the district during the peak morning hours. The pump is one of the Sunset pump units. Its use will be discontinued when a new line is built to the Presidio Heights district.

The increased use in the Hillside district, lying south of and adjacent to Lincoln Park, made necessary the installation of a new pressure controlled pumping station. This was built inside Lincoln Park at 36th Avenue. Two pumps of 270 gallons a minute capacity were installed and two of the old Lake Merced filters were moved over to serve as air tanks. The pumping station was put into operation on April 30, 1947. This station superseded the Hillside pump which was dismantled, and the lease on the Hillside property canceled. One of the pumps taken from Hillside was installed at Olmstead to give that station necessary increased capacity.

FUTURE TRANSMISSION LINE

This 60-inch pipe shown stored at Millbrae will be used in the San Andres-Sunset supply line now under construction. Pipe was purchased from War Assets Administration.

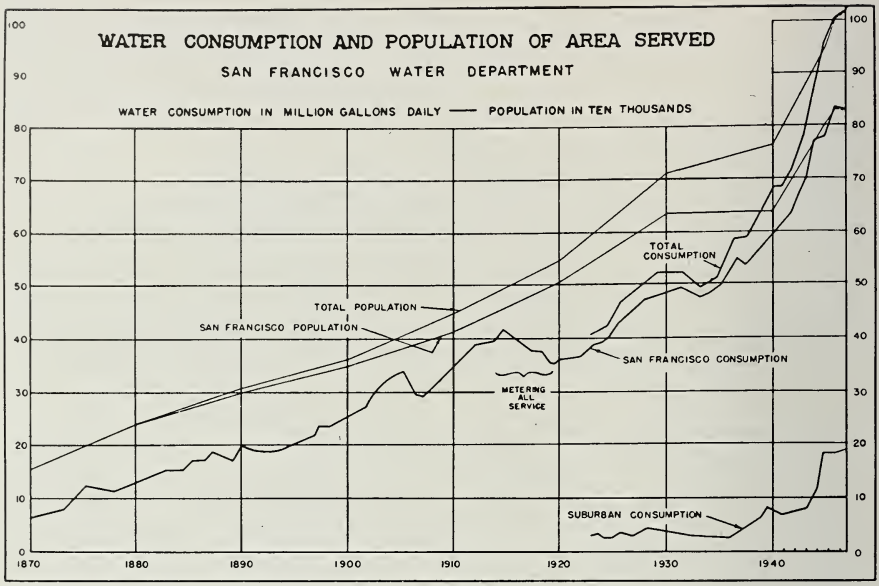
City Pipe System:

Only routine main pipe extensions were made during the past year. The pipe laid and removed, together with the pipe in the ground at the end of the year is given in Table No. 13.

The enormous demand throughout the country for cast iron pipe, which came as a result of the great home building program, greatly exceeded the capacity of the pipe foundries, and as a result there was a shortage of pipe here as well as elsewhere. As this report is being written, pipe is being delivered with later deliveries to come in February and March of 1948. Deliveries of present orders will be delayed for a year and a half, and it is probable that the present stock of pipe will be exhausted several months before the next lot is received.

Service and Meter Installations:

There were 2,789 regular services and 25 fire services installed. New meter sets were 3,766. There were 3,649 meters changed and 448 meters were brought home. All services and meters were maintained in proper condition.



WATER PURIFICATION DIVISION

Normal water treatment practices and precautions for sanitary protection were in force throughout the year. All water supplied to consumers complied with the bacteriological standards set up by the United States Public Health Service for drinking water purity, and no water borne disease could be attributed to the water supply. Consumers continue to receive a moderately soft water of relatively low mineral content which is slightly corrosive. The aesthetic quality was generally acceptable but would be materially improved by treatment in modern filtration plants. Filtration plants for treatment of water for Crystal Springs and San Andres reservoir have been included in our long range program, as there is no doubt that in the not too distant future, a growing public demand for crystal clear water will compel such installations.

Laboratory:

All analytical work in the fields of chemistry, bacteriology, and biology was performed in our laboratory located at Millbrae which has a Certificate of Approval from the State Department of Public Health for the examinations of waters to determine their conformity with public health requirements.

Following is a tabulation which summarizes the field and laboratory tests made:

Bacteriological Examinations	5,874
Microscopical Examinations of Algae	338
Slime Organisms—Inoculations and Examinations	265
Electrical Conductivity Measurements	3,561
Complete Mineral Analyses	21
Partial Chemical Analyses	539
Nitrogen Cycle Determinations	17

Dissolved Oxygen Tests	737
Tests to Determine Origin of Leaks	166
Complaint Investigations	45
Turbidity Measurements	2,901
Miscellaneous Laboratory Tests Not Otherwise Included	972
Miscellaneous Field Tests	2,598

The two constant temperature forced circulation incubators and the new drying oven purchased during the year aided in improving certain test results.

MONTHLY SUMMARIES OF BACTERIOLOGICAL ANALYSES

Samples Collected from the San Francisco Distribution System in Accordance with Certification Requirements

Month	Number of Samples	10 ml. Portion			Samples Positive (3 or more tubes)	
		Number of Tubes	Tubes Positive	Per Cent Positive	Number Positive	Per Cent Positive
1946						
July	315	1575	20	1.27	2	0.63
August	315	1575	3	0.19	0	0.00
September	312	1560	14	0.90	1	0.32
October	330	1650	15	0.91	3	0.91
November	304	1520	28	1.84	4	1.32
December	331	1655	20	1.21	4	1.21
1947						
January	337	1685	9	0.53	1	0.30
February	300	1500	8	0.53	0	0.00
March	337	1685	12	0.71	3	0.89
April	296	1480	3	0.20	0	0.00
May	336	1680	20	1.19	4	1.19
June	333	1665	28	1.68	3	0.90

Chlorination:

All water served was chlorinated at least once, and no water was exposed to contamination between the time of last chlorination and the consumer's tap. Eight of our thirteen chlorination stations operated continuously throughout the year. Calaveras station operated 9.2 months, being shut down for 2.8 months during the winter. One standby station in the city was operated intermittently during the rainy season for a total of 5.1 months. The portable chlorination unit kept at Millbrae was used on several occasions for the sterilization of tanks and pipe lines. All chlorination equipment was maintained in first class working condition by division personnel.

A total of 697,119 pounds of chlorine was used at all stations during the year for water treatment purposes. The major portion was used at our Tesla and Calaveras stations, where high dosages are necessary in order to maintain a chlorine residual throughout the Hetch Hetchy Aqueduct from Tesla to Pulgas outfall for slime control purposes.

OPERATION OF CHLORINATION STATIONS

Location		Total Operating Time (Months)	Chlorine Used (Pounds)	
Division	Station		Station Total	Division Total
Coast Range, H. H. W. S.	Tesla	12	372,686	372,686
Alameda	Calaveras	9.2	162,375	
	Irvington	0	0	
	Sunol (Niles Aq.)	12	5,690	168,065
Peninsula	Crystal Springs	12	74,927	
	San Andres No. 1	12	14,372	
	San Andres No. 2	12	49,775	139,074
City Distribution	College Hill	12	7,524	
	Lombard	12	532	
	University Mound:			
	Line No. 1	12	6,816	
	Line No. 2	4.2	1,205	
	Sunset	5.1	1,217	
	Merced Manor	0	0	
	Lake Honda	0	0	17,294
	Total for All Stations			697,119

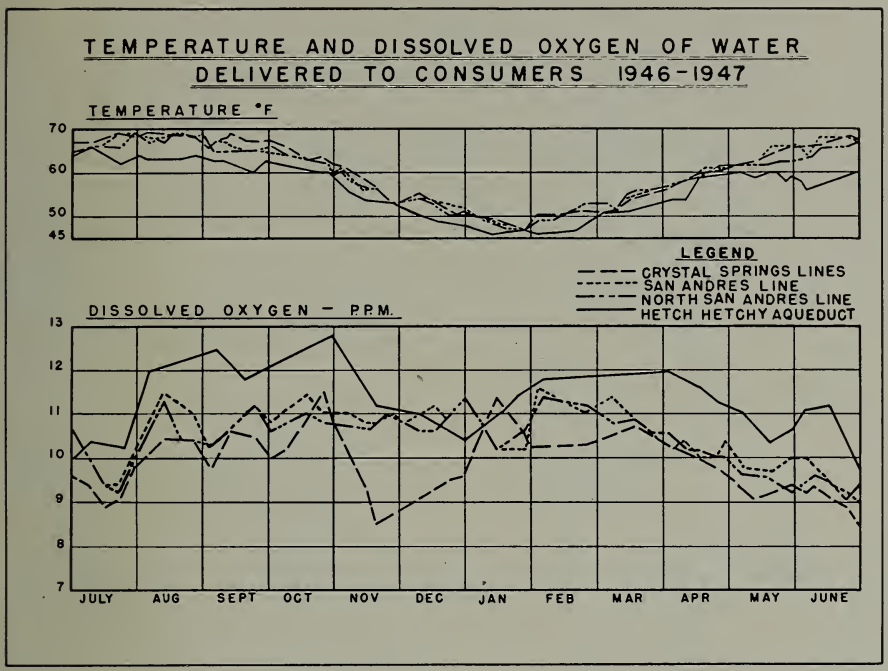
The new University Mound station was completed and placed in operation in February, 1947. One chlorinator was moved from our Merced Manor station to provide two machines at this new station that can be equipped with programming devices for regulating chlorine feed rates. One ton chlorine cylinders can now be used, effecting a saving in the cost of chlorine. The flow from both reservoirs is now treated by one station, thus replacing two former small treatment stations both of which were unsatisfactory and more expensive to operate.

The building housing the new San Andres No. 3 chlorination station was practically completed by the end of the year, and the work of installing the chlorination equipment was underway.

Reservoir Studies and Algae Control:

Weekly or bi-weekly algae catches from each local storage and impounding reservoir were examined microscopically in the laboratory to determine type and concentration of the various organisms. The results of these examinations were the basis for determining the treatments requiring a total of 77,600 pounds of copper sulfate for algae control. Calaveras reservoir was treated in the months of August, September and June to control growths of anabaena and aphanizomenon, using a total of 62,700 pounds of copper sulfate. Pilarcitos reservoir was treated in the months of November, February, and April to control growths of melosira, dinobryon and eudorina, and actinophrys, using a total of 3,500 pounds of copper sulfate. One treatment of Upper Crystal Springs reservoir was required in June for the control of ceratium, using 11,400 pounds of copper sulfate.

No treatments were necessary in either San Andres or Lower Crystal Springs reservoir, which is very unusual. Algal activity in the large peninsula reservoirs was greatly reduced this year, doubtlessly due to the very low runoff resulting from subnormal rainfall.



Cross-Connections:

Personnel shortages allowed only partial completion of our program of inspecting, at least once during the year, each of the one hundred and sixty-six double check valve assemblies installed on the service lines to premises where cross-connections exist between the public water supply and a private water supply. However, an inspection and test was made on each of the assemblies located on the service lines to each water service hydrant and fire hydrant on all San Francisco piers. Five per cent of the installations showed one check valve leaking; but on no installation were both checks found to be leaking, thus showing that each assembly would have prevented backflow in the event an unauthorized connection were made to a ship's salt water system.

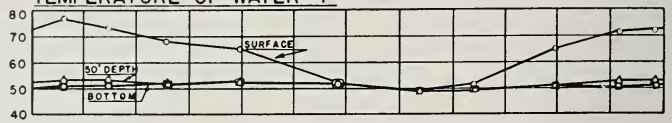
Inspections:

Inspections were made of the Upper Alameda Tunnel, the Irvington Tunnel, and both Bay Crossing Lines during the year to determine slime activity. As in the past, Upper Alameda Tunnel was found to be free of slime deposits except at points of ground water infiltration. Both Bay Crossing Lines and the Irvington Tunnel were found to be in satisfactory condition with respect to slime activity, showing that our present treatment practices are quite efficient in controlling these organisms. However, as their control is a continuous problem, periodic inspections are necessary and, on occasions, especially heavy chlorine treatments are required in order to maintain satisfactory aqueduct conditions.

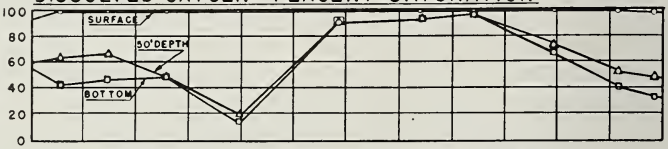
A joint sanitary survey of our local watersheds, treatment plants, and distribution facilities was made with a representative of the United States Public

CALAVERAS RESERVOIR 1946-1947

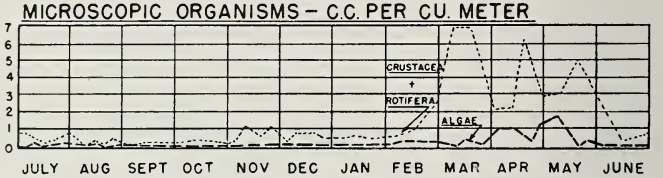
TEMPERATURE OF WATER °F



DISSOLVED OXYGEN - PERCENT SATURATION



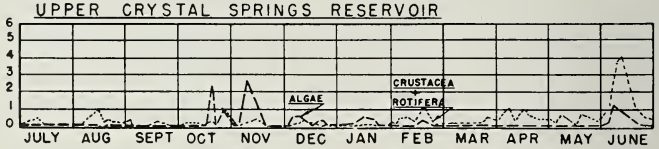
MICROSCOPIC ORGANISMS - C.C. PER CU. METER



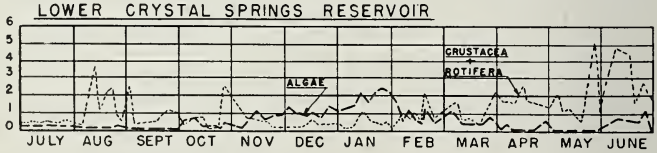
PENINSULA RESERVOIRS

MICROSCOPICAL ORGANISMS - C.C. PER CU. METER 1946-1947

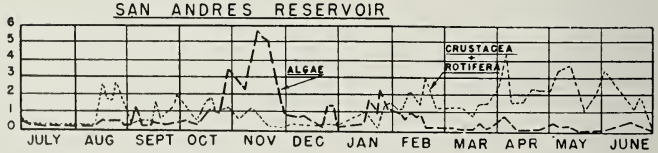
UPPER CRYSTAL SPRINGS RESERVOIR

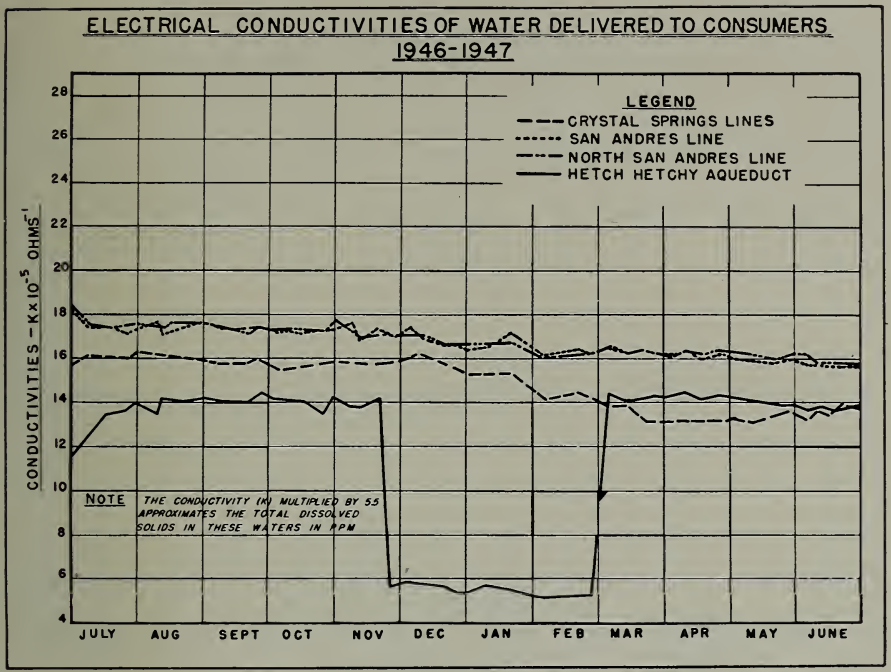


LOWER CRYSTAL SPRINGS RESERVOIR



SAN ANDRES RESERVOIR





Health Service which resulted in their recommendation that our supply again be certified for usage on common carriers in interstate traffic.

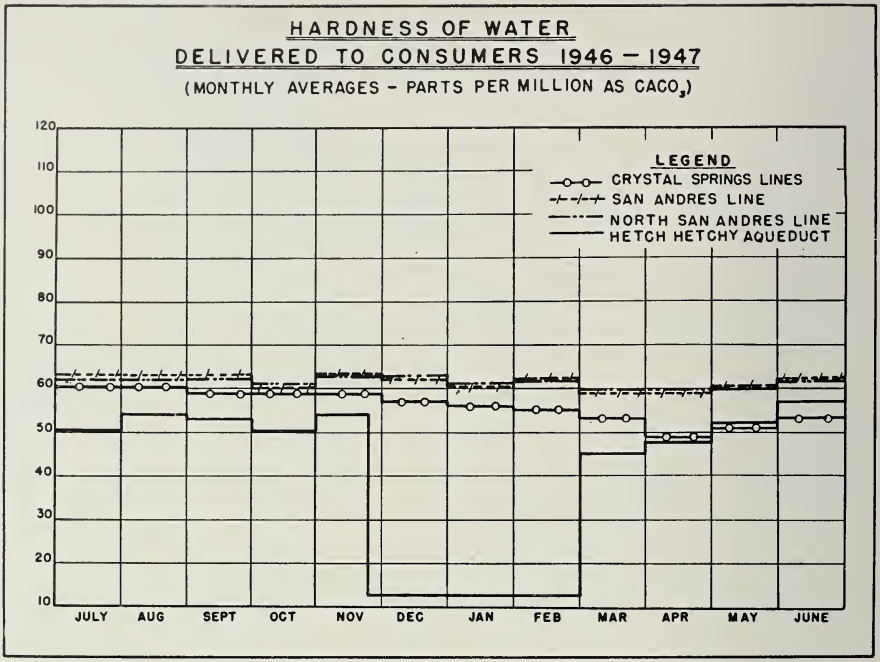
Another joint sanitary survey covering the sewage disposal systems at O'Shaughnessy Dam and the recreation camp at Tuolumne Meadows, also made with a representative of the United States Public Health Service, showed both systems to be operating satisfactorily, creating no pollution hazard to our Hetch Hetchy water supply. These disposal systems are both operated by the Park Service under the general supervision of the United States Public Health Service.

Corrosion Control:

The small scale experiment at Tesla Portal, treating Hetch Hetchy water with various lime dosages, was continued throughout the year yielding additional data on the reduction of the corrosive character of this water by lime treatment. Preliminary layout plans were made for a lime plant to be located at Hetch Hetchy Junction for full scale treatment of this soft mountain water. The operation of such a plant will be of considerable aid in reducing corrosion in our Hetch Hetchy Aqueduct and consumer distribution systems and will doubtless reduce to some extent the corrosive character of the Hetch Hetchy-Local Supply mixture now withdrawn from our peninsula reservoirs. An initial appropriation has been made for the plant, but additional funds must be appropriated in the next budget to provide for completion of plant and appurtenant facilities.

Water Quality and Complaints:

The chemical, as well as the bacteriological, quality of all water served during the year was well under the allowable limits set up by the United States Public



Health Service Drinking Water Standards. Lead, arsenic, and hexavalent chromium were absent from our supplies; and elements such as copper, iron, zinc, magnesium, and sulfate are well under the accepted limits. Our continually increasing consumption, coupled with the lack of appreciable local runoff, resulted in an increased percentage of Hetch Hetchy water in our peninsula storage reservoirs and consequently a slight decrease in mineral content of water served to city consumers.

The average monthly hardness of water served from the peninsula reservoirs ranged from 49 ppm. to 63 ppm. with a weighted average of about 59 ppm. The average monthly hardness of water served from the Hetch Hetchy Aqueduct ranged from 13 ppm. to 57 ppm. with an average of 42 ppm.

The pH of the water withdrawn from the peninsula reservoirs for consumer consumption ranged from 7.3 to 7.9 with a weighted average of 7.7; the alkalinity ranged from 46 ppm. to 62 ppm. with a weighted average of 57 ppm.; and the chloride content ranged from 7 to 12 ppm. with a weighted average of 9 ppm. The pH of the water served to Hetch Hetchy Aqueduct consumers ranged from 6.8 to 7.7 with an average of 7.3; the alkalinity ranged from 12 ppm. to 53 ppm. with an average of 40 ppm.; and the chloride content ranged from 3 ppm. to 7 ppm. with an average of 6 ppm.

Temperatures of water served from our peninsula reservoirs ranged from a minimum in winter of 47°F. to a maximum in summer of 69°F. Temperatures of water served from our Hetch Hetchy Aqueduct were, in general, a little lower ranging from a minimum in winter of 46°F. to a maximum in summer of 66°F. All consumers received water at all times having a dissolved oxygen content in excess of 8 ppm. with perhaps a few exceptions due to unusual circumstances.

As in the past, the major portion of bad water complaints continued to be of dirty water. However, the lack of appreciable runoff on the peninsula aided in providing somewhat clearer water for consumer consumption; and consequently there was a further 17 per cent reduction in bad water complaints as compared to last year when conditions were also very favorable for producing clear water. Crystal clear water for all consumers will only be assured after the construction of filtration plants for complete removal of all suspended material.

MINERAL ANALYSES

(Results expressed in parts per million, except pH and conductivity.)

Source	Crystal Springs Line	North San Andres Line	Hetch Hetchy Aqueduct
	Date Sampled		
	4/7/47	4/7/47	4/8/47
Conductivity (K x 10^{-5} ohm^{-1})	13.4	15.9	14.3
pH	7.7	7.7	7.5
Total Solids (Calculated)	76	89	84
Silica (SiO_2)	3.0	3.0	4.0
Sodium (Na)	8.0	9.4	9.9
Calcium (Ca)	12.8	15.4	14.5
Magnesium (Mg)	4.6	5.7	4.7
Iron, Dissolved (Fe)	0.02	0.02	0.03
Aluminum (Al)	0.02	0.03	0.02
Manganese (Mn)	0	0	0
Boron (B)	0.15	0.15	0.17
Fluoride (F)	0.10	0.10	0.10
Carbonate (CO_3)	0	0	0
Bicarbonate (HCO_3)	59	68	62
Sulphate (SO_4)	10.3	11.2	11.7
Chloride (Cl)	7	10	8
Nitrate (NO_3)	0.02	0.02	0.02
Hardness, Calculated ($CaCO_3$)	50	61	55
Alkalinity ($CaCO_3$)	48	56	51

Column 1 supplies downtown, commercial, waterfront areas of the city, and peninsula communities as far south as San Carlos.

Column 2 supplies residential areas of the city.

Column 3 supplies peninsula communities only (south of San Carlos).

REPORT OF LABORATORY EXAMINATIONS

Week Ending June 14, 1947

Source and Reservoirs	Max. Agar Count 37°C.	Coliform Group 10cc Por. No. Ex'd.	No. Pos.	% Pos. Mo.	Chemicals p.p.m. Alk.	Cl.	Hard.	pH	Turbidity	Date Sample Pos.
Moccasin Reservoir	2000	5	5	80.0	10	1	10	6.9	1.0	(5)6/12
Calaveras Reservoir	28	5	1	5.0	..	..	..	..	3.0	(1)6/12
Sunol Filters	4	5	1	15.0	..	..	..	..	0.5	(1)6/12
Pleasanton Wells	45	5	5	35.0	..	..	..	..	7.0	(5)6/12
Crystal Springs Reservoir	7	5	0	0.0	..	..	..	..	0.5	
San Andres Reservoir	3	5	0	0.0	..	..	..	..	1.0	
College Hill Reservoir	16	10	3	68.9	..	..	..	..	1.5	(1)6/9 (2)6/12
Lombard Reservoir	6	10	3	31.1	..	..	..	..	0.5	(3)6/9
University Mound Res. No. 1.	5	10	9	66.7	..	..	..	..	2.5	(5)6/9 (4)6/12
University Mound Res. No. 2.	2	10	0	0.0	..	..	..	..	0.5	
Sunset Reservoir	4	10	1	4.5	..	..	..	..	0.5	(1)6/12
Treated Waters—										
Niles Aqueduct	2	5	0	0.0	252	42	270	7.9	0.5	
Sunol Town Supply	1	5	0	0.0	52	6	56	7.3	1.5	
Hetch Hetchy Aq. Bay Cross..	2	15	0	0.0	52	6	56	7.3	1.5	
Palo Alto Pipe Line	5	15	0	0.0	52	6	56	7.3	1.5	
Crystal Springs Line No. 1	1	30	0	0.0	49	8	55	7.7	0.5	
Alameda Line, Belmont	6	10	0	0.0	49	8	55	7.7	0.5	
San Francisco Airport	1	10	0	0.0	49	8	55	7.7	0.5	
Crystal Springs Line No. 2	3	30	0	0.0	49	8	55	7.7	0.5	
San Andres Line	1	30	0	0.7	57	10	62	7.7	1.5	
North San Andres Line	2	30	0	0.0	57	10	62	7.7	1.0	
University Mound Inlet No. 1.	1	10	0	0.0	..	..	..	..	0.5	
University Mound Inlet No. 2.	3	10	0	0.0	..	..	..	..	0.5	
University Mound Outlet No. 1	1	10	0	0.0	..	..	..	..	0.5	
University Mound Outlet No. 2	2	10	0	0.0	..	..	..	..	0.5	
Univ. Mound System No. 1	15	10	0	0.0	..	..	..	..	0.5	
Univ. Mound System No. 2	17	10	0	2.2	..	..	..	..	0.5	
Univ. Mound System No. 3	5	10	0	6.7	..	..	..	..	1.5	
Univ. Mound System No. 4	1	10	0	0.0	..	..	..	..	0.5	
Univ. Mound System No. 5	25	10	0	0.0	..	..	..	..	0.5	
Univ. Mound System No. 6	5	10	0	0.0	..	..	..	..	1.0	
College Hill Inlet	3	10	0	0.0	..	..	..	..	0.5	
College Hill Outlet	2	10	0	0.0	..	..	..	..	1.5	
College Hill System No. 1	2	10	0	0.0	..	..	..	..	1.0	
College Hill System No. 2	2	10	0	0.0	..	..	..	..	1.5	
Sunset Transmission System..	1	10	0	0.0	..	..	..	..	2.0	
Sunset Inlet	1	10	0	0.0	..	..	..	..	0.5	
Sunset Outlet	1	10	0	0.0	..	..	..	..	0.5	
Sunset System No. 1	23	10	0	2.2	..	..	..	..	1.5	
Sunset System No. 2	1	10	0	0.0	..	..	..	..	0.5	
Merced Manor Reservoir	4	10	1	8.9	..	..	..	..	0.5	(1)6/9
Merced Manor System	12	10	0	8.9	..	..	..	..	0.5	
Stanford Heights Reservoir	2	10	0	2.2	..	..	..	..	0.5	
Stanford Hghts. System No. 1.	1	10	0	0.0	..	..	..	..	1.5	
Stanford Hghts. System No. 2.	1	10	0	0.0	..	..	..	..	0.5	
Lombard System	2	10	0	0.0	..	..	..	..	0.5	
Forest Hill Pump Suction	1	10	0	0.0	..	..	..	..	0.5	

Tubes Positive for all transmission lines and San Francisco samples for month 1.1%.

REMARKS: All water served to consumers conforms to the United States Public Health Service standard for drinking and culinary water supplied to common carriers in interstate traffic.

WATER SALES DIVISION

Gross water sales were $10,543,045. Deductions of $23,694 for allowances and refunds resulted in net sales of $10,519,351, an increase of $479,182 or 4.77 per cent over the previous fiscal year. The exclusion of $585,041 in Municipal non-paying sales produces revenue sales of $9,934,310, just short of $10,000,000. Gross sales in the suburban area increased $180,138 to $1,307,769. Suburban net sales of $1,307,126 now produce 13.16 per cent of our revenue sales. Gross water sales in San Francisco were $9,235,276, an increase of $277,714. Net water sales in the same area were $9,212,225, an increase of $294,696, the major portion of which was $270,671 in residential sales.

Deliveries through the Palo Alto pipe line show progressive growth. During the fiscal year there was a total recorded delivery of 199,423,700 cubic feet, an increase of 23,844,100 cubic feet over the previous year. Revenue from sales amounted to $231,711, an increase of $25,780. Since August, 1938, when the Palo Alto pipe line was put into operation, a delivery of over one billion cubic feet of water has been recorded. Revenue obtained from civil divisions outside San Francisco, who are taking water for re-sale, amounted to $444,490, an increase of $59,345.00 over last year.

Active consumers' accounts at June 30, 1947, were 137,594, a gain of 3,069 for the fiscal year.

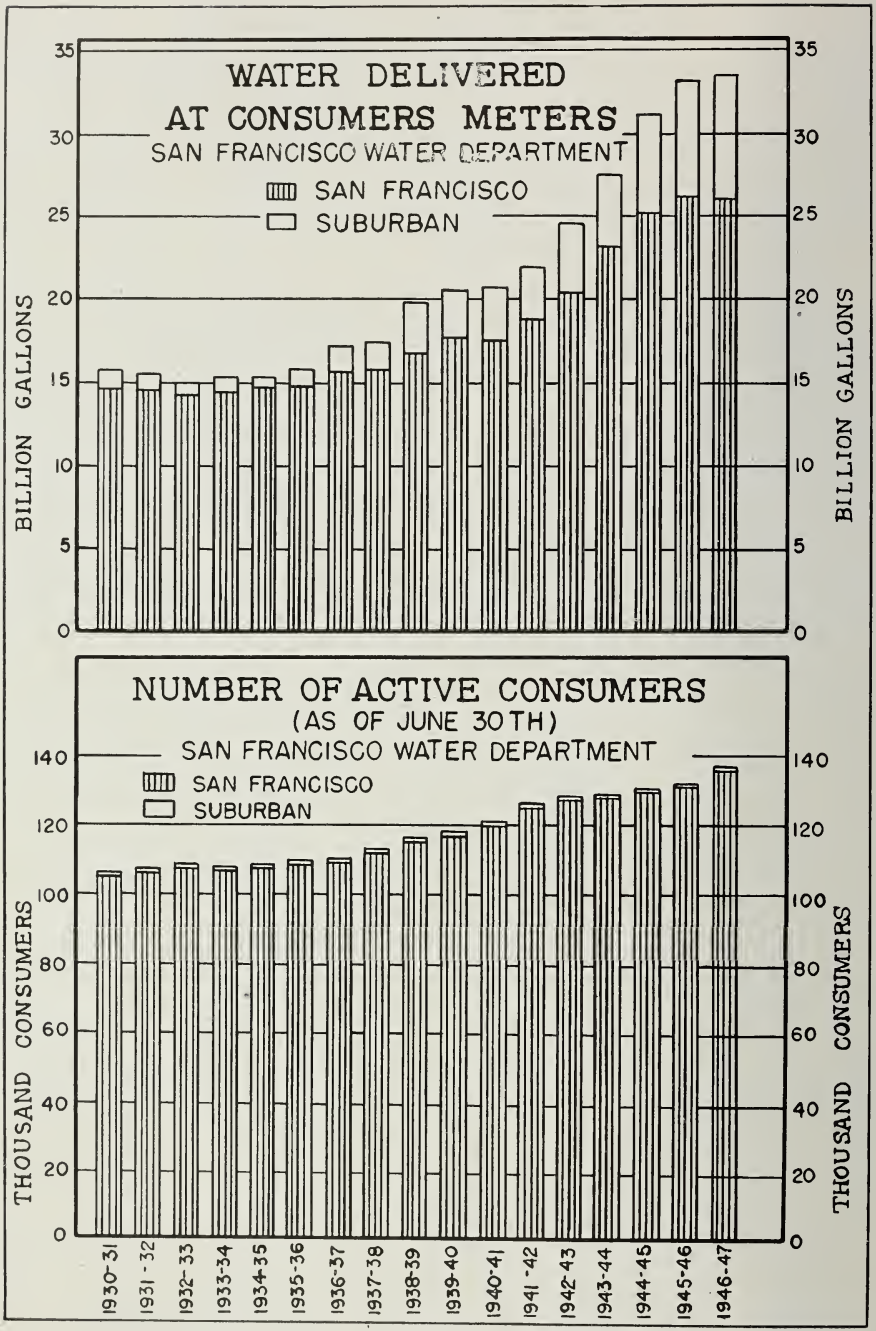
The number of closing bills issued for the year decreased slightly to 20.989. Bills written off as uncollectible amounted to $1,948.69, an increase of $1.118.29. However, the suspense balance, consisting of closed accounts awaiting collection or writeoff, was decreased by $1,205.21 to $2,902.83 at June 30, 1947.

During the year 2,886 new services and distributors were installed in San Francisco, of which 2,332 were in the Sunset-Parkside and South of Market-Twin Peaks areas. Metered services at June 30, totaled 138,377, of which 136,865 were active and producing revenue, an increase of 3,039. Services temporarily shut off at June 30 moved up slightly from 1,477 in 1946 to 1,512 in 1947. This, however, is only 1.09 per cent of the total metered services. Orders were taken for the installation of 24 automatic sprinkler services, almost double that of the previous year. Building permits issued for the year continued to increase. Of 7,685 such permits, 7,589 were for alterations and frame construction. New jobs handled by our builders and contractors section show a decrease of 287 from last year, but still continue high at 3,228.

Despite the increase in sales, consumers' accounts receivable at June 30, showed a decrease of $91,018 from last year, indicating the diligence of the collection division. Collections of $10,029,644 for the year were the largest in the history of the department, an increase of $731,763 over 1945-1946. An increase of 377 in the number of man days service of the regular collectors resulted in an increase of 10,509 bills collected and of 87,900 bills handled by them. A decrease of 51,174 in the number of bills mailed, followed as a consequence. The ratio of number of bills collected to number of bills taken out, reduced however, from 29.2 per cent to 27.6 per cent. Bills paid by mail increased 47,315, which may be attributed in a large degree to the use of the new checking systems inaugurated by the banks. Bills paid at the banks, office and American Express Agencies showed an aggregate decrease of 8,675 from last fiscal year.

A reduction of 1.9 per cent in the percentage of high bill complaints to total consumers reflects creditably on the department.

Statistics and data relative to the sales division activities are appended.


WATER DELIVERED
AT CONSUMERS METERS
SAN FRANCISCO WATER DEPARTMENT
SAN FRANCISCO
SUBURBAN
BILLION GALLONS
0
5
10
15
20
25
30
35
NUMBER OF ACTIVE CONSUMERS
(AS OF JUNE 30TH)
SAN FRANCISCO WATER DEPARTMENT
SAN FRANCISCO
SUBURBAN
THOUSAND CONSUMERS
0
20
40
60
80
100
120
140
1930-31
1931-32
1932-33
1933-34
1934-35
1935-36
1936-37
1937-38
1938-39
1939-40
1940-41
1941-42
1942-43
1943-44
1944-45
1945-46
1946-47

ENGINEERING DIVISION

Plans and specifications were prepared and contracts awarded for twenty-three formal and two informal Water Department contracts for a total estimated amount of $793,794.33. Engineering supervision and inspection services were provided for $886,254.99 worth of contract work actually completed during the year.

Of the twenty-three formal contracts awarded during the fiscal year 1946-47, thirteen were for water main extensions, three of which were awarded to the Water Department in an amount totaling $16,365.75. Two of these contracts, totaling $8,417.00, were completed by the department during the year at a cost of $6,746.89, or $1,670.11 less than the bid price. The largest single contract awarded during the year was $328,173.00 for pipe lines connecting the San Andres Outlet No. 3 with San Andres transmission lines No. 1 and No. 2, and was completed on June 21, 1947, at $17,104.59 less than the bid price.

The work of excavating and placing of embankments for the Sutro reservoir was completed on May 9, 1947, at a cost of $168,629.13.

The Lincoln Park pump station building was completed in July, 1946, and the chlorinating plant building at University Mound reservoir was completed in October, 1946. The equipment for the Lincoln Park pump station was installed by March, 1947.

The contract for the construction of the Irvington pumping station was awarded on March 31, 1947, at a bid price of $87,559.50.

Plans and specifications were prepared for the first portion of the new 60-inch Sunset supply line which will bring water from San Andres reservoir to Sunset reservoir for ultimate distribution to consumers. The award of this contract will be made during July, 1947.

Considerable other work involving preparation of property descriptions, granting of revocable permits and preparing terms and conditions for land transactions was performed by the Engineering division. Normal operating and maintenance activities were carried on throughout the year.

The usual amount of service was rendered to other departments of the Public Utilities Commission. Photostatic and photographic work was done for all city owned utilities.

The department operated throughout the year with a shortage of personnel. Vacancies in engineering and drafting positions were difficult to fill, there being no men available on most of the regular civil service lists and the limited tenure lists were also in many cases depleted. Requisitions for men placed with the Civil Service Commission during the first few months of 1947 were unfilled as of July 1, 1947.

Aside from the difficulty of securing men for handling the increased volume of work, the department suffered the loss of two men having long service records. On December 1, 1947, Mr. I. E. Flaa, hydraulic engineer, retired after 37 years of service with the Water Department and its predecessor, the Spring Valley Water Company. A few days later, on December 18, Mr. F. S. Isaacs, assistant engineer, passed away after 25 years of service with the Water Department and the Spring Valley Water Company.

A brief description of work performed under contract during the year follows:

A. Formal Contracts:

1.—Additions to City Pipe System:

In all contracts involving the laying of cast iron pipe or the installation of services, the contractor is required to obtain the pipe and fittings from the Water Department. The cost of this material, the cost of connections made by the department's forces, the engineering and inspection, are included in the following stated contract costs. In cases where the Water Department acts as the contractor the cost given is the actual cost of the completed work.

Contract No. 391—For the laying of 300 feet of 6-inch and 500 feet of 2-inch cast iron pipe and the installation of a 100,000 gallon redwood tank in the Twin Peaks area south of Palo Alto Avenue. The contract was awarded to the Water Department on September 24, 1945, and the work completed on July 7, 1946, at a cost of $5,731.05.

Contract No. 395—Provided for the laying of 1,400 feet of 6-inch and 1,700 feet of 8-inch cast iron pipe in the Embarcadero area between Chestnut and Market Streets. The contract was awarded to the Water Department on July 9, 1945, and the work completed on August 30, 1946, at a cost of $8,614.70.

Contract No. 397—Provided for the laying of 8,800 feet of 24-inch steel pipe and 325 feet of 12-inch cast iron pipe in Pacific Avenue, Jackson and Franklin Streets. The contract was awarded to Pacific Pipe Line Construction Company on September 4, 1945, and work completed on February 21, 1947, at a cost of $132,220.97.

Contract No. 398—For the laying of 1,300 feet of 8-inch and 2.100 feet of 12-inch cast iron pipe in the Embarcadero area between Taylor and Bay Streets, was awarded to the Water Department on July 16, 1945, and the work completed on August 21, 1946, at a cost of $23,839.31.

Contract No. 422—Included the installation of 240 services and the laying of 3,600 feet of 6-inch and 725 feet of 8-inch cast iron pipe in 40th, 41st, 42nd, 45th Avenues and Pacheco Street. The contract was awarded to Fred T. Fairey on May 13, 1946, and the work completed on June 13, 1947, at a cost of $10,914.31.

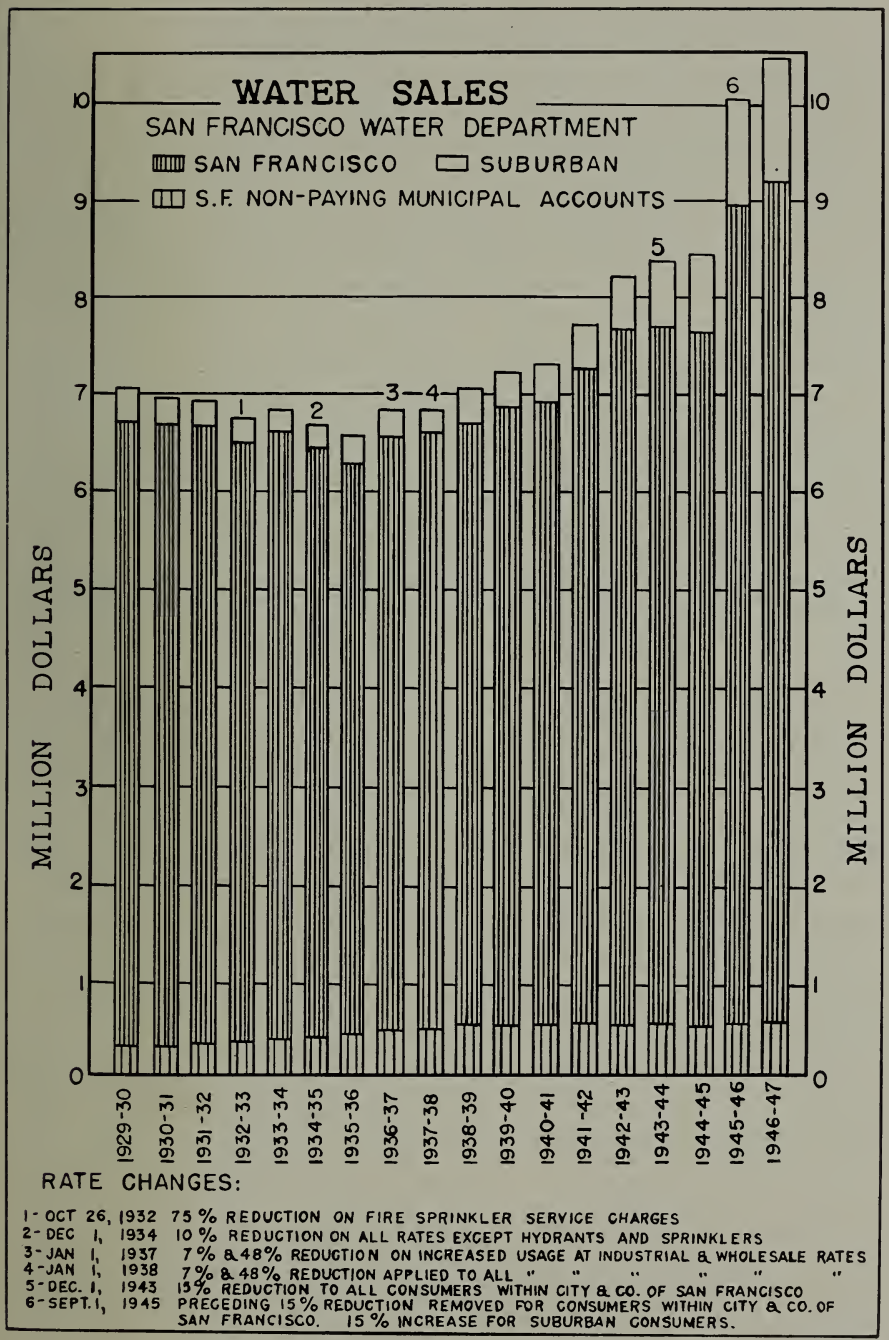
Contract No. 424—For the installation of 150 services and the laying of 200 feet of 4-inch, 4,200 feet of 6-inch, 6,000 feet of 8-inch and 3,850 feet of 12-inch cast iron mains in Anza Vista Subdivision. The contract was awarded to E. J. Treacy on July 1, 1946, and work completed on June 9, 1947, at a cost of $50,812.25.

Contract No. 425—Provides for the installation of 150 services and the laying of 2,500 feet of 4-inch, 5,500 feet of 6-inch, 4,700 feet of 8-inch, and 300 feet of 12-inch cast iron mains in Laurel Heights Subdivision. The contract was awarded to E. J. Treacy on July 8, 1946, at an estimated bid price of $40,344.50. As of June 30, 1947, no work had been started due to inability to secure materials.

Contract No. 426—For the installation of 152 services and the laying of 2,200 feet of 6-inch, 1,480 feet of 8-inch, and 430 feet of 12-inch cast iron mains in Miraloma Park Subdivision. The contract was awarded to Fred T. Fairey on June 30, 1947, at an estimated bid price of $22,537.80.

Contract No. 428—Provided for the installation of 29 services and the laying of 6,200 feet of 8-inch, 1,300 feet of 12-inch, and 2,100 feet of 16-inch cast iron mains in Apparel City. The contract was awarded to E. J. Tobin on September 3, 1946, and work was completed on April 9, 1947, at a cost of $38,589.54.

Contract No. 429—For the installation of 32 services and the laying of 1,400 feet of 6-inch and 1,100 feet of 8-inch cast iron pipe in Thrift Street, Eucalyptus



RATE CHANGES:

1- OCT 26, 1932 75 % REDUCTION ON FIRE SPRINKLER SERVICE CHARGES
2- DEC 1, 1934 10 % REDUCTION ON ALL RATES EXCEPT HYDRANTS AND SPRINKLERS
3- JAN 1, 1937 7 % & 48% REDUCTION ON INCREASED USAGE AT INDUSTRIAL & WHOLESALE RATES
4- JAN 1, 1938 7% & 48% REDUCTION APPLIED TO ALL " " " " " "
5- DEC. 1, 1943 13% REDUCTION TO ALL CONSUMERS WITHIN CITY & CO. OF SAN FRANCISCO
6- SEPT. 1, 1945 PREGEDING 15 % REDUCTION REMOVED FOR CONSUMERS WITHIN CITY & CO. OF SAN FRANCISCO. 15 % INCREASE FOR SUBURBAN CONSUMERS.

Drive and Girard Street. The contract was awarded to Fred T. Fairey on June 24, 1946, and work completed on July 14, 1946, at a cost of $7,060.42.

Contract No. 431—Provided for the installation of an 8-inch fire sprinkler service on the south side of Empire Lane and the laying of 290 feet of 8-inch cast iron main on Empire Lane east of Newhall Street. The contract was awarded to the Water Department on July 15, 1946, and work completed on September 10, 1946, at a cost of $1,172.35.

Contract No. 432—For the installation of 166 services and the laying of 2,120 feet of 6-inch and 1,220 feet of 8-inch cast iron mains in 39th, 42nd and 44th Avenues, Pacheco and Rivera Streets. The contract was awarded to Fred T. Fairey on July 7, 1946, and work completed on June 27, 1947, at a cost of $11,094.98.

Contract No. 434—For the installation of 95 services and the laying of 1,820 feet of 6-inch cast iron main in Velasco, Castillo, Pueblo and Calgary Streets, Palmetto and Alemany Boulevards. The contract was awarded to Fred T. Fairey on July 22, 1946, and work completed on October 1, 1946, at a cost of $8,445.57.

Contract No. 440—For the installation of 45 services and the laying of 1,340 feet of 8-inch cast iron main in Pennsylvania Street and Geneva Avenue. The contract was awarded to Fred T. Fairey on October 28, 1946, and the work completed on December 30, 1946, at a cost of $5,416.48.

Contract No. 441—Provided for the installation of 31 services and the laying of 800 feet of 4-inch and 910 feet of 8-inch cast iron mains in Chestnut, Hyde and Hanover Streets and Rockridge Drive. The contract was awarded to the Water Department on January 6, 1947, and was completed on April 8, 1947, at a cost of $5,574.54.

Contract No. 444—For the laying of 800 feet of 8-inch cast iron Main in Edgehill Way and Kansas Street. The contract was awarded to Fred T. Fairey on February 17, 1947, and work completed on March 17, 1947, at a cost of $4,726.50.

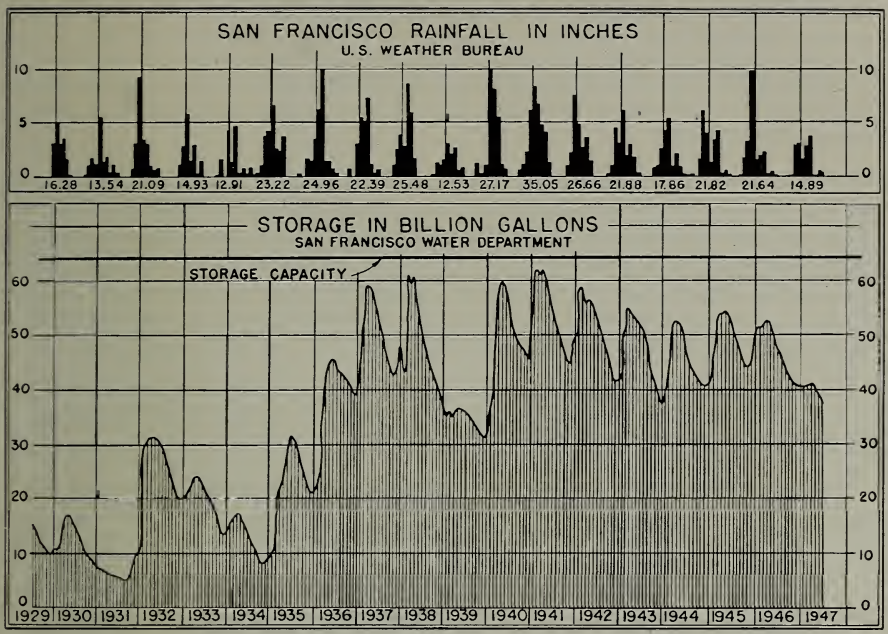
Contract No. 449—Provides for the laying of 3,200 feet of 16-inch cast iron main in 3rd Street from Evans to Arthur Avenue, and in main easement to Pier 92. The contract was awarded to E. J. Tobin on May 12, 1947, at an estimated bid price of $36,136.25. Work on this contract had not started as of June 30, 1947.

Contract No. 450—Provides for the installation of 25 services and the laying of 420 feet of 6-inch transite pipe, 250 feet of 2-inch and 1,200 feet of 8-inch cast iron mains in 14th Avenue and Fanning Way. The Contract was awarded to the Water Department on June 2, 1947, at an estimated bid price of $7,948.75. As of June 30, 1947, no work on this contract had been started.

Contract No. 453—For the installation of 578 services and the laying of 7,706 feet of 6-inch cast iron main and 2,700 feet of transite pipe in the Sunset and Parkside districts. The contract was awarded to Fred T. Fairey on June 17, 1947, at an estimated bid price of $38,189.00. Work on this contract had not started as of June 30, 1947.

2.—Additions to Supply and Transmission Facilities:

Contract No. 404—For the excavation and embankment at Sutro reservoir, was awarded to Piombo Bros. and Company on December 27, 1945, and the work completed on May 9, 1947, at a cost of $168,629.13.



Contract No. 409—Provided for the construction of a chlorinating plant building at University Mound reservoir. The contract was awarded to N. O. Wiseth on April 30, 1946, and the work completed on October 7, 1946, at a cost of $3,277.00.

Contract No. 410—Provided for the laying of 1,295 feet of 72-inch, 1,775 feet of 60-inch, 870 feet of 54-inch and 5,500 feet of 30-inch steel pipe to connect San Andres Outlet No. 3 to San Andres transmission lines No. 1 and No. 2, and the construction of appurtenant structures. The contract was awarded to Macco Construction Company and Morrison-Knudsen Company, Inc., on July 8, 1946, and work was completed on June 21, 1947, at a cost of $311,068.41.

Contract No. 411-A—For the construction of the Lincoln Park pump station building. The contract was awarded to N. O. Wiseth on April 1, 1946, and was completed on July 12, 1946, at a cost of $1,635.00.

Contract No. 411-B—Provided for the installation of equipment for the Lincoln Park pump station. The contract was awarded to the Water Department on October 28, 1946, and the work completed on March 27, 1947, at a cost of $4,900.60.

Contract No. 436—For the construction of the Irvington pump station in Alameda County. The contract was awarded to the Fred J. Early Jr. Company, Inc., on March 31, 1947, at an estimated bid price of $87,559.50. The contract was 14 per cent completed as of June 30, 1947.

3.—Miscellaneous Contracts:

Contract No. 413—Provided for furnishing and installing a hot water storage tank and making alterations in the boiler room at the Water Department's build-

ing, 425 Mason Street. The contract was awarded to O'Mara and Stewart, Ltd., on April 8, 1946, and was completed on August 8, 1946, at a cost of $1,827.00.

Contract No. 420—For the painting of the Forest Hill steel tank, was awarded to Deemer and Deemer, on April 30, 1946, and was completed on August 8, 1946, at a cost of $2,140.00.

Contract No. 430—Covered the repaving of streets and sidewalk openings made by the department for installation or repair work during the fiscal year 1946-47. The contract was awarded to the Pacific Pavements Company, Ltd., on June 24, 1946, and terminated June 30, 1947. Payments under the contract amounted to $37,929.96. Repavement over trenches opened by other contractors performing work for the department is not included under this annual paving contract, as each contractor must provide his own repaving.

Contract No. 433—For moving the employee cottage at Belmont, San Mateo County, was awarded to Hanson Bros. on July 22, 1946, and work completed on December 12, 1946, at a cost of $7,450.00.

Contract No. 435-R—For replacing storage building at Millbrae, San Mateo County, was awarded to Peter Sorensen, on February 24, 1947, and work completed on May 30, 1947, at a cost of $8,612.00.

Contract No. 442—Provided for the grading for fences at the University Mound lots. The contract was awarded to Rosenberg Bros. on December 23, 1946, and work completed on February 8, 1947, at a cost of $965.25.

Contract No. 443—For the improvement of the east side of Van Ness Avenue, north of North Point Street. The contract was awarded to Charles L. Harney on January 13, 1947, and the work completed on March 25, 1947, at a cost of $3,778.00.

Contract No. 445—For the construction of a fence at the University Mound lots, was awarded to Anchor Post Products, Inc., on April 7, 1947, and work was completed June 6, 1947, at a cost of $3,629.02.

Contract No. 447—For grading the east side of 28th Avenue, between Pacheco and Quintara Streets, was awarded to Devincenzi Bros. and Company on March 3, 1947, and work completed on April 3, 1947, at a cost of $3,561.25.

B. Informal Contracts:

The following jobs involving less than $2,000 were done under a work order issued after posting a notice of invitation for bids and the receipt of informal bids:

Informal Bid No. 76—For alterations to the drafting room at the Millbrae pump station, was awarded to N. O. Wiseth and the work completed on December 14, 1946, at a cost of $977.00.

Informal Bid No. 78—For construction of fences near the Bald Hill tunnel outlet, was awarded to Cyclone Fence Division of American Wire and Steel Company and the work completed on June 18, 1947, at a cost of $1,385.10.

AGRICULTURAL DIVISION

On July 1, 1947, the area of land owned in fee was 63,602.698 acres, which was 108.984 acres less than the acreage shown in the last annual report. This decrease is made up as follows:

	Acres	Acres
Purchases:		
Land for Irvington Pump Station		2.200
Land for Sunset Supply Line:		
Lots and/or portions of Seventy-Five Dollar Lot Homestead Association in San Mateo County identified as follows:		
Block 11, Lots 49, 22, 23, 47, 24, 21, 48, 20 and 50; Block 12, Lots 12, 13, 14, 15, 16 ,17, 18, 19, 54, 55, 56 and 57; Block 8, Lots 39, 40, 17 and 18		0.558
Strip through Belmar Subdivision, San Mateo County		0.445
Sales:		
Parcel 56, Alameda County Lands, sold to Normal Rose	10.650	
Portion of Parcel 21, San Francisco, sold to Murray Morton	.212	
Portion of Parcel 34, San Francisco, sold to T. Miralda	.103	
Reis Tract Lots, Assessor's Block 6203, San Francisco, sold to Carl Gellert	.287	
Parcel 16, San Francisco, sold to MacArthur Building Co.	.207	
Portion of Parcel 31, Peninsula Reservoir Lands, sold to T. I. Moseley	1.335	
Portion of Parcel 53, Niles Canyon Lands, sold to State of California (condemnation)	1.470	
Portion of Parcel 54, Niles Canyon Lands, sold to State of California (condemnation)	.050	
Portion of Parcel 57, Niles Canyon Lands, sold to State of California (condemnation)	19.290	
Portion of Parcel 65, Sunol Lands, sold to State of California (condemnation)	13.441	
Portion of Parcel 20, San Francisco, sold to Harry Mendelsohn	1.102	
Portion of Parcel 35, San Mateo, sold to Herman Christenson	33.5	
Portion of Parcel 37, San Mateo, sold to Carl Gellert	30.54	
	112.187	3.203
Total decrease in acreage		108.984

Of the above total, 35,375.85 acres, more or less, are leased under 161 leases. Changes in the leased acreage during the year were as follows:

	Acres	Acres
Increases:		
Lease No. 1126—Herbert E. Petersen		424.
Decreases:		
Lease No. 857 —Travis M. Boone	458.00	
Lease No. 991 —E. Borrelli	35.00	
Lease No. 1005—O. H. Taylor	26.00	
Lease No. 1024—N. D. Pennington	3.83	
Lease No. 1087—R. Chambers	2.89	
Lease No. 1097—F. Armenio	8.00	
Lease No. 1101—Jos. Lunghi	1.50	535.22
Net decrease		111.22

SUMMARY

Kind of Lease	Leased Acreage	No.of Leases	Income
Agricultural:			
Cattle	29,201.000	15	$45,227.57
Flat Rates	3,111.238	65	9,455.46
Share Crop	2,650.780	10	18,113.57
Non-Agricultural:			
Flat Rates	125.300	68	10,182.60
Taxes Paid by Tenants	.....	..	236.04
Royalties on Sale of Rock	15.000	1	20,827.78
Lake Merced Boating and Fishing	.....	1	1,356.29
Crystal Springs Golf Course	172.530	1	2,290.50
	35,275.848	161	$107,689.81
Walnut Orchard:			
Sale of Walnuts	100.000	0	73,017.57
	35,375.848	161	$180,707.38

Cattle Leases:

During the year 1946-47 there were 15 cattle leases with a total area of 29,201 acres. The rentals, however, increased 71 per cent over the base rentals, bringing an income of $45,227.57, or an increase of $4,004.27, over the previous year.

The existing cattle leases run for a period of five years from November 1, 1943, and rentals are based on a sliding scale according to sale prices of cattle during a specified period in each year, with the basic rental stipulated in each lease.

This method of basing rentals on a sliding scale is common practice, the cattlemen paying a higher rental when cattle prices are high and a correspondingly lower amount when lower prices prevail. Cattlemen in general prefer this method of arriving at fair rentals. High prices for beef cattle still continue and are likely to do so for some time to come owing to increased consumption at home and shipments abroad, this insuring further continuance of high rentals from these leases.

Rainfall was exceedingly light during the winter and spring months, causing much concern to cattlemen in general as well as an earlier than usual movement to markets of range cattle, so that really good top grade quality has been lacking to a large degree. Heavy sales of both beef cattle and even breeding stock occurred in the spring of 1947 due to fear of both feed shortage and drought conditions.

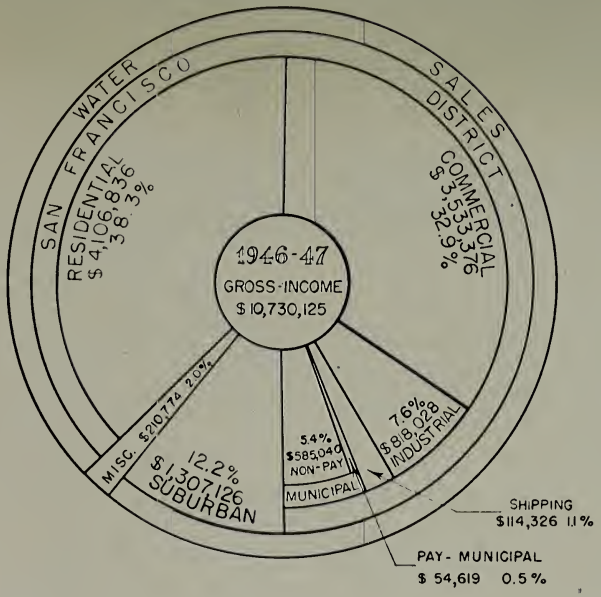
Share Crops:

Ten leases on a share crop basis, covering an area of approximately 2,650.780 acres, yielding an income of $18,113.57 for crops. Some of these leases paid a cash rental in addition to the share of crops. The principal crops raised were oats, barley, wheat and vetch hay, and barley and wheat grain, all of which were sold at good prices.

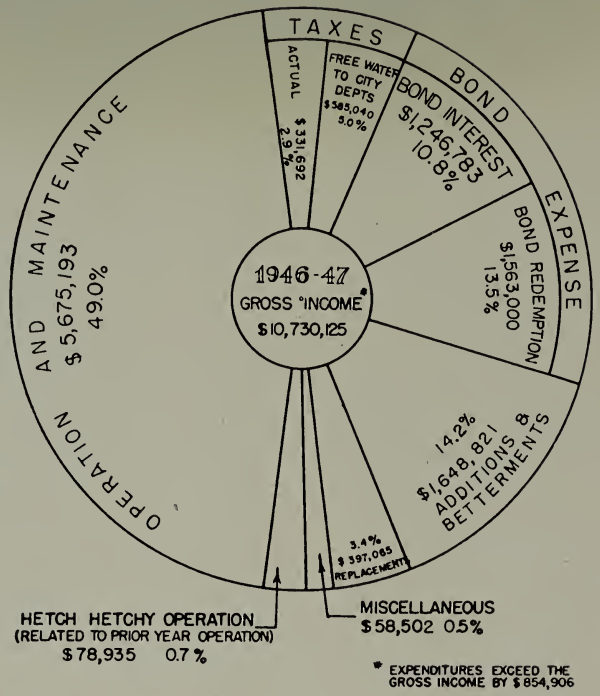
Two hundred acres of additional city lands at Sunol are being graded and leveled by a new tenant for the purpose of growing about one hundred acres of tomatoes and one hundred acres of alfalfa during this tenant's six years' lease. The city receives a basic cash rent and one-quarter of the crop.

Walnut Orchard:

The gross value of the walnut crop amounted to $73,017.57, an increase of $10,124.54 over the previous year.



SOURCE OF INCOME
FISCAL YEAR ENDING JUNE 30, 1947



DISPOSITION OF GROSS INCOME
FISCAL YEAR ENDING JUNE 30, 1947

The fertility of the orchard has been maintained by the planting of cover crops and application of ammonia-sulphate.

Liming of ground will take the place of vetch planting for the young orchard and applied to some die-back spots in the old orchard.

This year, due to the past three dry seasons, two irrigations instead of the one customary irrigation were made to this fertile soil. This, for the benefit of the thirty-five year old trees, as well as the walnut crop.

Forty acres additional are being planted in similar improved walnut varieties in January, 1948. The early maturing, early bearing Payne variety is being interplanted for income during the first ten years, to be removed as the late bearing varieties mature and spread out.

Fencing and Boundary Lines:

Fencing work on the properties was confined to the usual repairs and upkeep of boundary fences. All labor was furnished by the tenants and the material was furnished by the department.

Care of Property:

Morning glory infestation is being considerably retarded in tomato and alfalfa lands, and practically eliminated in the one hundred acre walnut orchard.

Generally good cooperation is experienced between the Agricultural Division personnel and the tenants in arriving at decisions and agreements as to the best crops to be grown. Fertilizers to be used by the tenants on city lands needing same, are discussed and agreed upon to mutual advantage.

Sanitary provision measures are strictly enforced in all leases, to insure against water pollution.

WALNUT CROP AND VALUE DURING CITY OWNERSHIP

	Total Yield Pounds	Gross Value	Net Cash Received	Association Charges % of Gross*	Packing House Charges
1930	110,361	$23,905.44	$20,024.55	16.23	$.0138
1931	91,570	13,778.73	12,272.73	10.93	.0091
1932	206,795	28,994.25	20,391.18	29.67	.0070
1933	153,080	23,635.21	17,905.45	24.24	.0073
1934	136,672	18,039.52	13,236.00	26.63	.0059
1935	209,095	27,359.11	22,719.87	16.96	.0045
1936	187,605	27,865.13	24,947.57	10.47	.0046
1937	179,954	23,808.71	21,102.05	11.37	.0042
1938	258,934	36,812.05	31,801.16	13.61	.0090
1939	153,770	12,747.35	11,366.74	10.83	.0124
1940	90,148	13,570.25	11,671.08	14.00	.0100
1941	239,062	37,182.09	29,807.07	19.83	.0088
1942	254,594	45,744.85	44,000.73	3.81	.0068
1943	188,590	49,552.64	48,373.84	2.38	.0082
1944	107,831	29,487.66	26,901.72	8.77	.0138
1945	214,919	62,893.03	58,474.64	7.03	.0126
1946	240,883	73,017.57	73,017.57	†	†
Total 17 years	3,023,863	$548,393.59	$488,013.95	12.70	$.0083

*Includes cost of surplus, operating reserve and revolving fund in addition to actual Association charges for marketing expense.

†Membership in Walnut Growers Association discontinued as of January 28, 1946, and crops sold under public bids.

ACCOUNTING AND AUDITING

The accounts of the San Francisco Water Department are maintained strictly in accordance with the requirements of the State Railroad Commission and Section 64 of the Charter, and the accounts of the Department have been so coordinated with the Controller's system that no encumbrance or expenditures against budget estimates can be incurred without prior certification from the Controller that funds are available. As provided in Ordinance 9.0621, an annual audit of the Department is made as of June 30 by a firm of certified public accountants. The accountant's report is not available at the time the Department's financial statement goes to press, hence there may be minor differences between the two reports due to reclassifications made by the accountants.

COMMENTS ON FINANCIAL STATEMENTS

An analysis of the disposition of Earned Surplus, together with additions thereto and deductions therefrom is shown in the body of these comments.

The following financial statements and cost reports are presented:

Balance Sheet June 30, 1947 (Exhibit A).

Income Statement for the years ended June 30, 1946 and June 30, 1947 (Exhibit B).

Surplus Account June 30, 1947 (Exhibits C and D).

Comparative Statement of Operating Expenses for fiscal years 1945-46 and 1946-47 (Exhibit E).

Detail of Fixed Capital in Service (Schedule No. 1).

Comparison of actual revenues and expenditures with budget estimates for fiscal year 1946-47 (Schedule No. 2).

Statements of Cash, Outstanding Warrants, Interfund Accounts, Bond Interest and Redemption (Schedules Nos. 3, 4 and 5).

Operating Expenses for past four fiscal years (Schedules Nos. 6, 7, 8, 9 and 10).

Operating Expenses for fiscal year 1946-47 detailed as to component parts (Schedules Nos. 11, 12, 13, 14 and 15).

Additions, Betterments and Replacements for fiscal year 1946-47 (Schedule No. 16).

Agricultural Division, Receipts and Expenses for past five years (Table 24).

Sales of water for the fiscal year 1946-47 were $10,519,351.35 as against $10,040,169.37 for prior years, an increase of $479,181.98, due principally to an increase of approximately 17.6 per cent in water rates to consumers, including Suburban, effective September 1, 1945. The new rate was in effect for a period of ten months for the fiscal year ended June 30, 1946. The increase was also due to a normal increase in both San Francisco and Suburban sales.

Other income amounts to $210,773.60 as against $168,944.63 for prior year, an increase of $41,828.97, due to increase in rents received from share crop tenants and an increased value of walnut crop.

As of July 1, 1946, the Water and Power Utilities were placed on a pay as you go basis which involved the payment to Hetch Hetchy Water Supply for purchase of water and standby charge the sum of $3,731,908.00. The amount paid to Hetch Hetchy Water Supply is in substantial compliance with Section 130 of the Charter, which provides that the rates charged by a public utility will be sufficient to render the utility self-supporting. Section 122 of the Charter provides that the Hetch Hetchy Project, when completed, shall be merged with the Water Department. Due to certain commitments made by the City to the Government of the United States, under the provisions of the Raker Act, which involves further development, the project is deemed not completed. This payment accounts for an increase of $3,070,631.00, being part of a total increase of $3,333,908.25 in Operating Expenses. The remaining part of the increase is due to several factors, namely, additional repair work performed, added cost of labor and material, and of service furnished.

Following is a statement showing increases and decreases in Operating Expenses for the year under review:

Operating Expenses:	Increase	Decrease
Source of Supply	$39,956.90	.....
Standby Charge and Purchase of Water	3,070,631.00	.....
Pumping	12,832.99	.....
Purification	1,025.19	.....
Transmission and Distribution	113,757.47	.....
Commercial Division	74,041.16	.....
Administrative and General	18,485.07	.....
Taxes—Actual	64,479.11	.....
Provision for Depreciation	.....	$91,052.44
Municipal Taxes—Comparison*	29,751.80	.....
Net Increase	.....	3,333,908.25
	$3,424,960.69	$3,424,960.69

Other Expenses decreased $56,655.88 due to retirement of $1,563,000.00 in bonds amounting to a decrease in Interest Charges of $67,520.00. This saving was offset partially by an increase in the Agricultural Division Expenses and in Miscellaneous Expenses.

*Water service to Municipal Departments offset by taxes.

DISPOSITION OF EARNED SURPLUS

Exhibits C and D show surplus for past twelve months and composition of surplus accumulated to date. Following is a statement of the disposition of surplus arising from operations, together with additions and deductions not strictly confined thereto:

Surplus—	To June 30, 1946	Year 1946-1947	To June 30, 1947
Contributed to:			
General Fund	$15,992,457.24	.....	$15,992,457.24
Hetch Hetchy Water Supply	4,394,061.58	$78,934.52	4,472,996.10
Hetch Hetchy Power	4,170.00	.....	4,170.00
Appropriated for:			
Bond Redemption—Spring Valley	16,000,000.00	1,000,000.00	17,000,000.00
Bond Redemption—1933 Water Distribution	5,346,594.33	563,000.00	5,909,594.33
Additions and Betterments	9,689,659.79	1,398,821.00	11,088,480.79
Additions and Betterments—Lake Merced Project	1,000,000.00	250,000.00	1,250,000.00
Purchase of Land	22,858.50	.....	22,858.50
Other Purposes	31,268.70	69,160.59	100,429.29
Surplus	176,684.20	*996,853.94*	*820,169.74*
	$52,657,754.34	$2,363,062.17	$55,020,816.51
Add:			
Initial Earnings—Excess Earnings	.....	.....	.....
Spring Valley Water Company	$4,152,652.24	.....	$4,152,652.24
Valuation Municipal Water Works	100,000.00	.....	100,000.00
Grants Earned on Federal Projects	2,358,987.60	.....	2,358,987.60
Surplus Material and Equipment from Construction Projects	381,367.16	.....	381,367.16
Land Sales—Profit	80,449.32	$200,354.51	280,803.83
Bond Premiums	821,684.38	.....	821,684.38
Palo Alto Pipe Line	304,271.90	.....	304,271.90
Miscellaneous Additions	202,186.20	39,770.81	241,957.01
Bay Bridge Pump and Supply Line	97,218.13	23,205.13	120,423.26
	$8,498,816.93	$263,330.45	$8,762,147.38
Deduct:			
Contribution to General Fund	$15,992,457.24	.....	$15,992,457.24
Deficit County Line Water Works	19,189.15	.....	19,189.15
Payment to Spring Valley Water Company for purpose of enabling City to take over Properties in Advance	745,274.31	.....	745,274.31
Lands Contributed to City	149,599.29	.....	149,599.29
Contribution to Other Public Service Enterprises	4,398,231.58	$78,934.52	4,477,166.10
Miscellaneous Deductions from Surplus	173,693.33	.....	173,693.33
Depreciation due to Revaluation	8,482,295.33	.....	8,482,295.33
Depreciation not Funded (Accrued since 3/3/30)	7,776,039.97	317,846.37	8,093,886.34
	$37,736,780.20	$396,780.89	$38,133,561.09
	$23,419,791.07	$2,229,611.73	$25,649,402.80

Italic figures denote loss and deficiency.

SAN FRANCISCO WATER DEPARTMENT

EXHIBIT A

BALANCE SHEET—JUNE 30, 1947

ASSETS

Fixed Capital:		
In Service	$72,976,946.38	
Less Provision for Depreciation	27,530,570.69	
	$45,446,375.69	
Construction in Progress	1,232,373.02	$46,678,748.71
Cash:		
Treasurer's Balance Schedule Annexed	$7,121,296.22	
Revolving Fund	30,000.00	7,151,296.22
Accounts Receivable:		
Consumers' Accounts	$753,629.79	
Less Reserve for Losses	47,125.54	
	$706,504.25	
Other Accounts Receivable	47,606.93	754,111.18
Interfund Accounts:		
Schedule Annexed:		
Public Service Enterprises	$36,919.32	
General City and County	774.54	37,693.86
Deferred Charges:		
Materials and Supplies	$422,495.93	
Reserve Fund Expenditures Unbilled	160,826.12	
Miscellaneous Jobbing and Sales Accounts, etc.	3,071.50	
Public Utilities Commission	551.54	586,945.09
		$55,208,795.06

LIABILITIES

Bonded Debt:		
Spring Valley Water Bonds, 1928	$24,000,000.00	
Water Distribution Bonds, 1933	3,935,000.00	
Matured, not presented for payment:		
Spring Valley, 1928	12,000.00	$27,947,000.00
Bond Interest Payable:		
Accrued, not due:		
Spring Valley Water Bonds, 1928	$540,000.00	
Water Distribution Bonds, 1933	13,116.66	
Matured, not presented for payment:		
Spring Valley, 1928	19,035.00	
Water Distribution, 1933	5,260.00	577,411.66
Accounts Payable:		
Warrants Outstanding:		
Schedule Annexed	$130,076.75	
Consumers' Deposits and Advances	184,391.67	
General Creditors	126,168.45	
Accrued Payroll	790.65	441,427.52
Interfund Accounts:		
Schedule Annexed:		
Public Service Enterprises	$23,442.33	
General City and County	437,720.89	461,163.22
Deferred Credits:		
Reserve for Compensation Insurance	$61,362.38	
Reserve for Unpaid Revolving Fund Checks	3,134.30	
Other Deferred Credits	67,893.18	132,389.86
Surplus:		
Schedule Annexed		25,649,402.80
		$55,208,795.06

SAN FRANCISCO WATER DEPARTMENT
EXHIBIT B—INCOME ACCOUNT
Twelve Months Ending June 30, 1947 and 1946

	Twelve Months Ending June 30		Increase or	Cumulation from March 3, 1930 to
	1947	1946	*Decrease*	June 30, 1947
Sale of Water:				
San Francisco	$8,572,565.32	$8,315,177.08	$257,388.24	$113,135,753.92
Outside of San Francisco	1,307,126.06	1,122,639.55	184,486.51	9,249,898.99
Municipal Departments—Actual	54,619.45	47,064.02	7,555.43	1,026,870.76
Municipal Departments—Comparison*	585,040.52	555,288.72	29,751.80	7,556,517.13
	$10,519,351.35	$10,040,169.37	$479,181.98	$130,969,040.80
Operating Expenses:				
Source of Water Supply	$257,189.43	$217,232.53	$39,956.90	$4,302,825.73
Standby Charge & Purchase of Water†	3,731,908.00	661,277.00	3,070,631.00	7,811,577.00
Pumping	243,215.45	230,382.46	12,832.99	4,222,053.64
Purification	83,085.18	82,059.99	1,025.19	982,067.93
Transmission and Distribution	503,694.85	389,937.38	113,757.47	5,538,939.53
Commercial Division	526,364.93	452,323.77	74,041.16	6,368,087.30
Administrative and General	326,135.16	307,650.09	18,485.07	5,080,946.57
Taxes—Actual	331,692.26	267,213.15	64,479.11	4,441,503.77
Provisions for Doubtful Accounts	3,600.00	3,600.00	.....	225,337.07
Provisions for Depreciation	888,180.86	979,233.30	*91,052.44*	18,263,510.21
Municipal Taxes—Comparison*	585,040.52	555,288.72	29,751.80	7,572,755.85
	$7,480,106.64	$4,146,198.39	$3,333,908.25	$64,809,604.60
Profit from Operations	$3,039,244.71	$5,893,970.98	*$2,854,726.27*	$66,159,436.20
Other Income:				
Rentals, including Crop Shares	$107,689.81	$86,314.55	$21,375.26	$1,086,004.89
Interest Earned	7,499.96	7,499.96	.....	391,397.25
Sale of Walnuts	73,897.98	62,893.03	11,004.95	551,825.13
Miscellaneous	21,685.85	12,237.09	9,448.76	162,024.23
	$210,773.60	$168,944.63	$41,828.97	$2,191,251.50
Other Expenses:				
Bond Interest	$1,246,783.33	$1,314,303.33	*$67,520.00*	$29,352,588.03
Agricultural Division	18,241.17	12,038.35	6,202.82	249,088.08
Walnut Orchard Expense	30,509.39	34,300.65	*3,791.26*	335,710.04
Miscellaneous	9,750.95	1,298.39	8,452.56	69,149.04
	$1,305,284.84	$1,361,940.72	*$56,655.88*	$30,006,535.19
Net Income	$1,944,733.47	$4,700,974.89	*$2,756,241.42*	$38,344,152.51

*Water Service to Municipal Departments offset by Municipal Taxes.
†This increase is occasioned by the fact that in prior years a portion of this expense was treated as a contribution to H. H. W. S. instead of an operating expense.

Italic figures denote loss and deficiency.

SAN FRANCISCO WATER DEPARTMENT
EXHIBIT C—SURPLUS ACCOUNT
For Twelve Months Ending June 30, 1947

Surplus—June 30, 1946		$23,416,164.50
Add:		
Net Income for Twelve Months ending June 30, 1947	1,944,733.47	
Miscellaneous Additions to Surplus	442,829.78	$25,803,727.75
Deduct:		
Contribution to Hetch Hetchy Water Supply for Fiscal Year 1945-46	$78,934.52	
Miscellaneous Deductions from Surplus	75,390.43	154,324.95
Surplus—June 30, 1947		$25,649,402.80

SAN FRANCISCO WATER DEPARTMENT
EXHIBIT D
COMPOSITION OF SURPLUS—CONDENSED
June 30, 1947

Initial Surplus—March 3, 1930:			
Amortization Contribution (Spring Valley)	$4,152,652.24		
Valuation of Municipal Water Works	100,000.00		
	$4,252,652.24		
Less: Additional Allowance for Depreciation—			
March 1, 1920 to March 3, 1930	2,327,916.67	$1,924,735.57	
Additions:			
Net Profit—March 3, 1930 to June 30, 1947	$38,344,152.51	$42,509,957.27	
Miscellaneous and Year to Year Adjustments	4,165,804.76		
Grants Earned on Federal Public Works Projects		2,358,987.60	
Year to Year—Additions to Surplus to June 30, 1944		1,462,481.49	$48,256,161.93
Deductions:			
Contributions to General Fund		$15,992,457.24	
Contributions to Hetch Hetchy Water Supply	$4,472,999.10		
Contributions to Hetch Hetchy Power Division	1,228.59	4,474,227.69	
Lands Contributed:			
To City and County of San Francisco for Streets and Boulevards		149,599.29	
Excess of Adjusted Book Value of Plant Appraisal—December 31, 1937		1,990,474.91	22,606,759.13
Surplus—June 30, 1947			$25,649,402.80

SAN FRANCISCO WATER DEPARTMENT

EXHIBIT E

COMPARATIVE STATEMENT OF OPERATING EXPENSES

For the Fiscal Years ended June 30, 1947 and June 30, 1946

	Fiscal Year Ending June 30 1947	1946
Source of Water Supply Expenses:		
Superintendence	$38,411.49	$32,049.54
Operating Labor	52,338.72	43,468.17
Operating Supplies and Expenses	12,096.84	11,691.75
Repairs and Maintenance—Buildings, Fixtures and Grounds	106,335.76	119,861.17
Repairs—Surface Facilities	48,006.62	10,161.90
	$257,189.43	$217,232.53
Pumping Expenses:		
Labor—Pumping	$66,189.85	$62,789.76
Labor—Miscellaneous	1,434.06	957.91
Fuel for Steam	30,613.73	21,724.94
Power Purchased	125,567.68	129,460.03
Lubricants	35.39	20.17
Miscellaneous Supplies and Expense	2,299.25	1,943.60
Repairs—Primary Pumping Equipment	7,697.91	8,928.30
Repairs—Boilers and Equipment	340.49	484.91
Repairs—Miscellaneous Equipment	2,652.69	548.23
Other Repairs and Gardening	6,384.40	3,524.61
	$243,215.45	$230,382.46
Purification Expenses:		
Superintendence and Labor	$33,512.51	$33,506.40
Supplies and Expense	45,626.96	43,363.18
Repairs—Plant, Structures and Equipment	2,886.59	4,322.75
Repairs and Maintenance—Roads and Trails	1,059.12	867.66
	$83,085.18	$82,059.99
Transmission and Distribution Expense:		
Superintendence	$49,853.69	$40,486.35
Patrolling Storage Facilities	17,199.59	17,845.42
Meters and Fittings Department	61,368.80	50,250.73
Street Department	21,902.69	19,851.36
Consumers' Premises Expenses	27,049.75	22,917.27
Miscellaneous Supplies and Expenses	9,806.13	5,447.80
Repairs—Transmission Mains and Canals	42,589.40	19,568.38
Repairs—Reservoirs, Tanks and Standpipes	3,607.28	3,433.65
Repairs—Distribution Mains and Canals	118,872.73	97,921.27
Repairs—Service Connections	119,388.39	87,968.69
Repairs—Distribution Buildings and Grounds	27,889.12	22,000.86
Repairs—Distribution Equipment	4,167.28	2,245.60
	$503,694.85	$389,937.38

EXHIBIT E—Continued

	Fiscal Year Ending June 30 1947	1946
Commercial Expenses:		
Collections	$149,576.68	$129,817.84
Reading Meters	73,415.24	61,478.76
Bookkeeping Department	159,476.20	132,104.12
General	55,436.98	55,338.83
Inspection and Service	63,850.30	53,944.38
Shipping	24,609.53	19,639.84
	$526,364.93	$452,323.77
Administrative and General Expense:		
Salaries—General Officers	$18,686.77	$13,552.88
Salaries General Office Clerks	57,822.76	46,864.51
Miscellaneous Supplies and Expenses	8,508.21	2,531.48
Injuries and Damages	3,147.44	3,046.27
Retirement System Contributions	42,270.66	41,738.63
Mason Street Building Expense	28,733.45	26,862.65
Telephone Service	19,133.23	15,949.98
Guest Cottages and Rest Room	1,822.87	1,487.73
General Engineering	56,759.82	50,461.03
Hydrography	1,334.86	1,574.64
Miscellaneous	14,176.98	1,778.84
Compensation Insurance	9,480.89	8,096.93
Other Insurance	6,500.10	5,017.23
Repairs—Mason Street Building	4,906.00	8,983.76
Repairs—Telephone System	11,110.42	9,381.23
Professional Services	3,100.00	2,417.71
Public Utility Commission Expense	38,640.70	61,792.00
Property Taxes (Outside of San Francisco)	331,692.26	267,213.15
Emergency Civilian Defense	.....	6,112.59
	$657,827.42	$574,863.24

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 1
FIXED CAPITAL IN SERVICE

		Balance June 30, 1947	Balance June 30, 1946	Net Additions 1946-1947
1010	Intangible Capital	$3,183,224.00	$3,183,224.00	.....
1015	Landed Capital	12,374,383.13	12,391,823.00	*$17,439.87*
1020	Buildings, Structures and Grounds	1,115,254.38	1,115,875.45	*621.07*
1025	Source of Supply	20,108,730.39	20,107,024.97	1,705.42
1030	Pumping Station Equipment	645,942.03	665,696.21	*19,754.18*
1035	Purification Capital	156,421.48	151,029.26	5,392.22
1040	Transmission and Distribution Utilities—San Francisco	33,701,634.58	33,241,947.31	459,687.27
1041	Transmission and Distribution—Outside of San Francisco	396,145.91	396,145.91	.....
1045	General Equipment	169,237.39	152,366.15	16,871.24
1046	Automotive Equipment	211,628.89	174,020.20	37,608.69
1048	Non-Operative Capital	28,528.46	28,588.69	*60.23*
1047	Undistributed Construction Expenditures	885,815.74	1,253,831.16	*368,015.42*
		$72,976,946.38	$72,861,572.31	$115,374.07
	Less Provision for Depreciation	27,530,570.69		
		$45,446,375.69		
1400	Construction Work in Progress	1,232,373.02		
		$46,678,748.71		

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 2
COMPARISON OF ACTUAL REVENUES AND EXPENDITURES WITH BUDGET ESTIMATES
Fiscal Year 1946-1947

	Twelve (12) Months to June 30, 1947		
Description	Budget	Revenue Expenditures Accruals	Increase or *Decrease*
City Distribution Division	$572,870.00	$577,862.47	$4,992.47
Peninsula Division	417,429.00	379,579.61	*37,849.39*
Alameda Division	132,718.00	104,417.27	*28,300.73*
Standby Charge and Purchase of Water	3,731,908.00	3,731,908.00	.....
Purification Division—General	34,610.00	36,435.98	1,825.98
Commercial Expenses	518,387.00	526,364.93	7,977.93
General and Miscellaneous Expenses	222,111.00	221,635.90	*475.10*
Public Utilities Commission	42,534.00	38,640.70	*3,893.30*
Advisory and Consulting Expenses	2,600.00	3,100.00	500.00
Walnut Orchard Expenses	31,237.00	30,509.39	*727.61*
Agricultural Division Expenses	13,116.00	18,241.17	5,125.17
Insurance—Compensation	5,000.00	6,685.03	1,685.03
Insurance—Automobile	5,000.00	5,509.79	509.79
Insurance—Other	2,000.00	990.31	*1,009.69*
Injuries and Damages	72,161.00	72,308.03	147.03
Property Taxes	331,693.00	331,693.00	.....
Pensions	48,900.00	42,270.66	*6,629.34*
Operating Budget and Total	$6,184,274.00	$6,128,152.24	*$56,121.76*

Italic figures denote loss and deficiency.

SCHEDULE No. 2—Continued

Description	Budget	Twelve (12) Months to June 30, 1947 Revenue Expenditures Accruals	Increase or *Decrease*
Equipment	$16,925.00	$16,925.00	.....
Additions and Betterments	1,398,821.00	1,398,821.00	.....
Replacements and Reconstruction	397,065.00	397,065.00	.....
Transfers:			
Bond Interest and Redemption	3,066,660.00	3,066,660.00	.....
Surplus—Charter—Sec. 127	39,655.00	39,655.00	.....
Total Estimated Expenditures	$11,103,400.00	$11,047,278.24	*$56,121.76*
Revenues:			
Sale of Water	$9,997,400.00	$9,934,310.83	*$63,089.17*
Other Income	146,894.00	210,773.60	63,879.60
Surplus from Prior Year	959,106.00	924,918.03	*34,187.97*
Total Revenues	$11,103,400.00	$11,070,002.46	*$33,397.54*
Net Savings over Budget Estimate			$22,724.22

SAN FRANCISCO WATER DEPARTMENT

SCHEDULE No. 3

CASH AND OUTSTANDING WARRANTS

June 30, 1947

	Treasurer's Balance	Outstanding Warrants
Water Operating Fund	$958,773.07	$108,362.22
Reconstruction and Replacement Fund	726,653.93	3,315.93
Extension Reserve Fund	2,245,264.67	17,873.60
Water Works System Bond Fund	1,250,000.00	.....
Bond Interest Fund—1928 Issue	559,035.00	.....
Bond Redemption Fund—1928 Issue	1,012,000.00	.....
Land Purchase Fund	363,725.29	525.00
Bond Fund—1933	584.26	.....
Bond Interest Fund—1933 Issue	5,260.00	.....
	$7,121,296.22	$130,076.75
Revolving Fund	$30,000.00	

Italic figures denote loss and deficiency.

SAN FRANCISCO WATER DEPARTMENT

SCHEDULE No. 4

DETAIL OF INTERFUND ACCOUNTS

June 30, 1947

ACCOUNTS RECEIVABLE

Public Service Enterprises:	
Hetch Hetchy Power Division	$474.91
Hetch Hetchy Water Supply	7,177.21
San Francisco Municipal Railway	21,097.68
San Francisco Airport	4,298.34
Public Utilities Commission—General Office	3,448.69
Bureau of Light, Heat and Power	422.49
Total Public Service Enterprises Accounts Receivable	$36,919.32
General City and County:	
Park Department	$14.02
Fire Department	600.65
Department of Public Works	156.26
Department of Public Health	3.61
Total General City and County Accounts Receivable	$774.54

ACCOUNTS PAYABLE

Public Service Enterprises:	
Bureau of Light, Heat and Power	$23,442.33
Total Public Service Enterprises Accounts Payable	$23,442.33
General City and County:	
Cash Reserve Fund	$400,000.00
Purchasing Department	457.76
Department of Public Works	240.68
Employees' Retirement System	37,022.45
Total General City and County Accounts Payable	$437,720.89

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 5
BOND REDEMPTION AND INTEREST
(On Cash Basis)

Fiscal Year	Redemption: Spring Valley July 1	Redemption: Water Distribution December 1	Redemption: Total	Interest: Spring Valley	Interest: Water Distribution	Interest: Total	Total Redemption and Interest
1946-47	$1,000,000	$563,000	$1,563,000	$1,080,000	$168,660	$1,248,660	$2,811,660
1947-48	1,000,000	563,000	1,563,000	1,035 000	146,140	1,181,140	2,744,140
1948-49	1,000,000	563,000	1,563,000	990,000	123,620	1,113,620	2,676,620
1949-50	1,000,000	563,000	1,563,000	945,000	101,100	1,046,100	2,609,100
1950-51	1,000,000	563,000	1,563,000	900,000	78,580	978,580	2,541,580
1951-52	1,000,000	563,000	1,563,000	855,000	56,060	911,060	2,474,060
1952-53	1,000,000	563,000	1,563,000	810,000	33,540	843,540	2,406,540
1953-54	1,000,000	557,000	1,557,000	765,000	11,020	776,020	2,333,020
1954-55	1,000,000	.....	1,000,000	720,000	.....	720,000	1,720,000
1955-56	1,000,000	.....	1,000,000	675,000	.....	675,000	1,675,000
1956-57	1,000,000	.....	1,000,000	630,000	.....	630,000	1,630,000
1957-58	1,000,000	.....	1,000,000	585,000	.....	585,000	1,585,000
1958-59	1,000,000	.....	1,000,000	540,000	.....	540,000	1,540,000
1959-60	1,000,000	.....	1,000,000	495,000	.....	495,000	1,495,000
1960-61	1,000,000	.....	1,000,000	450,000	.....	450,000	1,450,000
1961-62	1,000,000	.....	1,000,000	405,000	.....	405,000	1,405,000
1962-63	1,000,000	.....	1,000,000	360,000	.....	360,000	1,360,000
1963-64	1,000,000	.....	1,000,000	315,000	.....	315,000	1,315,000
1964-65	1,000,000	.....	1,000,000	270,000	.....	270,000	1,270,000
1965-66	1,000,000	.....	1,000,000	225,000	.....	225,000	1,225,000
1966-67	1,000,000	.....	1,000,000	180,000	.....	180,000	1,180,000
1967-68	1,000,000	.....	1,000,000	135,000	.....	135,000	1,135,000
1968-69	1,000,000	.....	1,000,000	90,000	.....	90,000	1,090,000
1969-70	1,000,000	.....	1,000,000	45,000	.....	45,000	1,045,000
	$24,000,000	$4,498,000	$28,498,000	$13,500.00	$718,720	$14,218,720	$42,716,720

Total 1928 Spring Valley Issue.....$41,000,000
Rate of Interest..... 4½%

Total 1933 Water Distribution Issue.$12,095,000
Rate of Interest..... 4%

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 6
OPERATING EXPENSES

RESERVOIRS AND SOURCES

	1943-44	1944-45	1945-46	1946-47
Inside of San Francisco:				
Lake Merced	$4,104.68	$3,832.42	$3,580.67	$4,884.92
Other Supply Lines	.....	419.47	.....	.....
	$4,104.68	$4,251.89	$3,580.67	$4,884.92
Outside of San Francisco:				
Surface Sources				
San Andres Reservoir	$13,285.20	$16,480.08	$12,217.08	$16,737.26
Crystal Springs Reservoir	33,879.65	26,488.18	38,072.03	38,631.50
Pilarcitos Reservoir	16,621.58	19,923.92	43,185.50	15,151.75
Calaveras Reservoir	9,878.95	9,760.13	9,670.68	10,572.42
	$73,665.38	$72,652.31	$103,145.29	$81,092.93
Ground Sources				
Sunol Filter Beds	$6,234.91	$6,798.00	$7,706.45	$6,639.12
Pleasanton Wells	659.75	484.18	224.41	1,002.78
	$6,894.66	$7,282.18	$7,930.86	$7,641.90
Supply Lines and Aqueducts:				
Bay Division Pipe Lines	$10,032.88	$21,732.57	$8,177.38	$39,378.09
Stone Dam Aqueduct	4,764.09	2,811.19	1,335.56	7,386.40
Pilarcitos Aqueduct	152.25	.....	.....	.....
Niles-Irvington Pipe Line	1,780.30	1,704.28	2,350.10	3,056.20
Upper Alameda Tunnel	50.18	.....	.....	.....
Upper Alameda Creek Diversion Dam	.....	696.33	1,200.03	.....
Calaveras Pipe Line	549.90	797.86	534.35	.....
Other Supply Lines and Aqueducts	592.25	580.72	1,501.87	2,620.23
	$17,921.85	$28,322.95	$15,099.29	$52,440.92
Alameda System—General Expenses	$19,775.08	$20,763.71	$22,332.51	$26,602.91
Peninsula System—General Expenses	50,130.75	54,567.78	65,143.91	84,525.85
	$69,905.83	$75,331.49	$87,476.42	$111,128.76
Total Source of Supply Expense	$172,492.40	$187,840.82	$217,232.53	$257,189.43

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 7
OPERATING EXPENSES

PUMP STATIONS

Inside of San Francisco:	1943-44	1944-45	1945-46	1946-47
Steam Plants				
Central	$60,985.66	$60,489.89	$63,066.18	$77,853.55
City	168.24	143.94	22.46	637.56
Clarendon Heights	434.20	495.35	564.36	473.70
Ocean View	175.50	133.20	.....	.....
	$61,763.60	$61,262.38	$63,653.00	$78,964.81
Electric Pumps				
Alemany	$8,104.50	$40,271.20	$631.83	$23,706.90
Bay Bridge Pump—Treasure Island	10,138.22	14,478.28	13,561.24	9,142.52
Daly Hill	.....	.....	.....	176.06
Forest Hill	6,018.32	8,781.71	5,808.72	6,233.20
Potrero Heights	443.53	343.97	365.90	271.18
Newcomb Avenue	2,754.34	4,608.94	5,089.30	5,421.77
Hillside	274.17	223.95	271.55	414.79
Fairview	563.32	757.31	2,225.80	604.73
Lincoln Park	361.99	372.31	386.58	750.35
Palo Alto	.....	.....	.....	111.47
Twin Peaks	441.06	470.13	617.38	712.29
Lake Honda Booster	61.75	55.84	.....	.....
Sunset Booster	3.03	36.55	404.49	448.59
Sunset Source	15.53	40.37	45.93	101.52
Olmstead and University	427.54	665.00	722.43	732.53
Bernal Heights	186.06	624.21	342.92	372.15
St. Germain	168.19	290.61	374.25	908.48
General	128.27	311.00	1,029.46	539.90
	$30,089.82	$72,331.38	$31,877.78	$50,648.43
Total Inside of San Francisco	$91,853.42	$133,593.76	$95,530.78	$129,613.24
Outside of San Francisco:				
Baden	$8,658.96	$58,167.17	$39,334.84	$6,598.86
Belmont Pump	3,256.70	1,148.86	41.87	.....
Millbrae Pump	.21	.....	119.74	.....
Crystal Springs Pump	59,663.86	65,762.50	91,033.38	102,347.97
Bay Division Pump	2,927.80	3,199.44	2,667.23	1,883.56
Pleasanton Pump	120.69	667.55	687.04	959.98
Pleasanton Township Water District	618.84	909.75	900.00	1,811.84
San Lorenzo Pump	152.94	350.35	67.58	.....
Total Outside of San Francisco	$75,400.00	$130,205.62	$134,851.68	$113,602.21
Total Pumping Expenses	$167,253.42	$263,799.38	$230,382.46	$243,215.45

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 8
OPERATING EXPENSES

PURIFICATION EXPENSES

	1943-44	1944-45	1945-46	1946-47
Inside of San Francisco:				
College Hill	$1,332.38	$1,006.19	$975.75	$1,069.34
Lake Honda	28.84	50.01	31.95	4.12
Lombard Street	66.08	58.98	60.82	67.37
Sunset	52.76	155.27	174.16	207.63
University Mound	2,356.38	1,075.89	1,251.26	1,051.80
Lake Merced	839.99	428.57	42.64	147.17
Total Inside of San Francisco	$4,676.43	$2,774.91	$2,536.58	$2,547.43
Outside of San Francisco:				
San Andres Reservoir	$6,442.43	$4,163.66	$3,557.27	$4,504.78
Crystal Springs Reservoir	12,436.94	11,054.98	6,837.14	6,918.83
Calaveras Reservoir	15,295.49	15,828.43	14,338.92	14,211.36
Sunol Purification System	689.72	751.92	925.44	905.20
Other Outside Stations	1,114.09	1,715.99	204.94	477.17
Coast Range Division, H.H.W.S.	8,869.21	15,044.76	17,825.20	17,084.43
Millbrae Laboratory	26,879.12	26,195.14	35,834.50	36,435.98
Total Outside of San Francisco	$71,727.00	$74,754.88	$79,523.41	$80,537.75
Total Purification Expenses	76,403.43	77,529.79	82,059.99	83,085.18

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 9
OPERATING EXPENSES

TRANSMISSION AND DISTRIBUTION

	1943-44	1944-45	1945-46	1946-47
Inside of San Francisco:				
City Transmission Lines	$1,488.11	$1,678.37	$203.13	$2,784.19
City Distribution Reservoirs	38,638.92	35,076.43	31,794.44	39,426.37
Meter Expenses	44,264.92	46,602.31	41,576.76	49,167.73
Street Department Expenses	20,423.46	20,556.41	19,851.36	21,902.69
Main Repairs	65,784.64	74,790.13	97,894.67	118,785.40
Service Connection Repairs	67,176.69	79,168.21	87,946.87	119,388.39
Repairs to Buildings and Equipment	1,812.98	2,903.54	2,245.60	4,167.28
Operation of Corporation Yard	363.21	110.21	356.10	8,291.39
Consumers' Premises Expenses	19,740.13	22,197.08	22,917.27	27,049.75
Superintendence	34,396.74	35,897.46	44,664.13	49,853.69
Total in San Francisco	$294,089.80	$318,980.15	$349,450.33	$440,816.88
Outside of San Francisco:				
Alameda Supply Line—Alameda Division	$866.19	$1,092.46	$306.47	$479.00
Alameda Supply Line—Peninsula Division	274.13	251.71	1,011.77	347.64
Alameda Transmission Line	3,816.06	6,727.70	5,981.05	11,970.02
San Andres Aqueduct	2,343.05	1,153.54	.....	.....
Crystal Springs Pump Aqueduct	4,409.43	4,045.05	5,113.79	5,892.67
New Crystal Springs Transmission Line	10,934.53	3,770.52	5,105.75	7,536.34
Old Crystal Springs Transmission Line	2,407.27	6,436.96	5,331.70	9,385.35
San Andres Transmission Line No. 1, to College Hill	2,398.69	1,634.40	1,042.94	6,932.61
San Andres Transmission Line No. 2, to Lake Honda	2,475.85	4,393.64	2,691.89	2,713.93
San Andres Transmission Line No. 3, to Merced Manor	1,601.97	1,687.11	1,692.08	1,697.53
Palo Alto Pipe Line	20.64	.....	62.35	71.82
Niles Regulating Reservoir	4,009.96	3,054.40	3,421.90	3,476.99
Pleasanton Transmission Line	885.74	27.57	2.97	173.00
Meter Expense—Peninsula Division	6,059.67	5,579.70	8,722.39	12,041.64
Meter Expense—Alameda Division	.....	.....	.....	159.43
Total Outside of San Francisco	$42,503.18	$39,854.76	$40,487.05	$62,877.97
Total Transmission and Distribution Expenses	$336,592.98	$358,834.91	$389,937.38	$503,694.85

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 10
OPERATING EXPENSES

	1943-44	1944-45	1945-46	1946-47
Commercial Expenses:				
Collections	$124,851.80	$126,394.84	$129,817.84	$149,576.68
Reading Meters	43,282.00	53,491.09	61,478.76	73,415.24
Bookkeeping Department	126,764.53	127,380.30	132,104.12	159,476.20
General and Miscellaneous	43,718.91	50,583.58	55,338.83	55,436.98
Inspection and Service	42,370.02	50,455.22	53,944.38	63,850.30
Shipping	18,072.63	17,519.79	19,639.84	24,609.53
	$399,059.89	$425,824.82	$452,323.77	$526,364.93
General and Miscellaneous:				
Salaries of General Officers	$13.042.90	$13,261.53	$13,552.88	$18,686.77
Salaries of General Office Clerks	46,264.30	51,242.18	46,864.51	57,822.76
Miscellaneous Supplies and Expense	927.87	2,739.28	4,094.32	8,508.21
Public Utilities Commission Expenses	42,791.00	47,101.00	61,792.00	38,640.70
General Engineering	45,593.91	47,651.34	50,461.03	56,759.82
Hydrography	783.04	1,587.38	1,574.64	1,334.86
Telephone Services	14,853.27	14,826.34	15,949.98	19,133.23
Mason Street Building Operations	23,783.28	25,713.25	26,862.65	28,733.45
Rest Room and Guest Cottages	1,374.73	1,566.73	1,487.73	1,822.87
Advisory and Consulting Expenses	2,165.63	2,600.00	2,417.71	3,100.00
Repairs—Mason Street Building	2,382.50	9,863.81	8,983.76	4,906.00
Repairs—Telephone System	6,259.25	8,959.28	9,381.23	11,110.42
Repairs—Extraordinary—Move Employee's Cottage—Belmont	.....	.....	.....	7,558.69
Cleanup Non-Operative Property	.....	.....	.....	5,562.29
	$200,221.68	$227,112.12	$243,422.44	$263,680.07
Other Operating Expenses:				
Insurance—Compensation	$8.380.05	$8,856.40	$8,096.93	$9,480.89
Insurance—Other	9,633.84	6,407.84	5,017.23	6,500.10
Injuries and Damages	816.85	2,785.65	3,046.27	3,147.44
Pensions	35,616.94	42,878.05	41,738.63	42,270.66
Property Taxes	219,290.11	240,444.01	267,213.15	331,692.26
Miscellaneous—General	656.00	1,036.69	216.00	1,056.00
Emergency Civilian Defense	171,717.54	120,712.60	6,112.59	.....
	$446,111.33	$423,121.24	$331,440.80	$394,147.35
	$646,333.01	$650,233.36	$574,863.24	$657,827.42

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 11
OPERATING EXPENSES—1946-47
CITY DISTRIBUTION DIVISION—PUMPING STATIONS ACCOUNT

	Labor	Use of Equipment	Materials and Supplies	Fuel or Power	Contractual Service	Total
STEAM PUMPS:						
Central	$46,503.23	$41.82	$695.11	$30,613.39	.....	$77,853.55
City	603.56	31.23	2.77	.....	.....	637.56
Clarendon Heights	457.23	9.67	6.80	.....	.....	473.70
	$47,564.02	$82.72	$704.68	$30,613.39	.....	$78,964.81
ELECTRIC PUMPS:						
Alemany	$3,798.83	$44.34	$214.79	$19,648.94	.....	$23,706.90
Bay Bridge—Treasure Island	448.66	67.10	49.78	8,462.50	114.48	9,142.52
Daly Hill	168.76	7.30	.....	.....	.....	176.06
Forest Hills	689.10	82.08	50.45	5,411.57	.....	6,233.20
Potrero Heights	121.40	9.38	.....	140.40	.....	271.18
Newcomb Avenue	384.12	58.43	23.85	4,955.37	.....	5,421.77
Hillside	131.54	28.79	19.74	234.72	.....	414.79
Fairview	407.97	36.66	10.66	149.44	.....	604.73
Lincoln Park	442.73	34.42	185.30	80.40	7.50	750.35
Twin Peaks	364.82	44.08	34.93	250.96	17.50	712.29
Palo Alto	100.51	6.64	.....	4.32	.....	111.47
Sunset Booster	439.21	7.63	1.75	.....	.....	448.59
Sunset Source	.....	.....	.....	.....	101.52	101.52
Olmstead and University	244.26	24.73	.....	463.54	.....	732.53
Bernal Heights	292.35	29.61	5.67	44.52	.....	372.15
St. Germain	685.27	31.62	39.09	14.16	138.34	908.48
General	125.00	1.11	320.90	.....	92.89	539.90
	$8,844.53	$513.92	$956.91	$39,860.84	$472.23	$50,648.43
Total Inside San Francisco	$56,408.55	$596.64	$1,661.59	$70,474.23	$472.23	$129,613.24

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 12
OPERATING EXPENSES—1946-47
City Distribution Division

	Labor	Use of Equipment	Materials and Supplies	Contractual Service	Paying	Miscellaneous	Total
SOURCE OF SUPPLY:							
Lake Merced	$4,571.34	$68.69	$159.83	$85.06	.....	.....	$4,884.92
PURIFICATION:							
College Hill	73.87	6.26	748.13	241.08	.....	.....	1,069.34
Lake Honda	.....	.....	4.12	.....	.....	.....	4.12
Lombard Street	10.18	.20	56.99	.....	.....	.....	67.37
Sunset Reservoir	61.99	.78	143.83	1.03	.....	.....	207.63
University Mound	194.28	15.23	765.65	76.64	.....	.....	1,051.80
Lake Merced	140.62	.....	6.55	.....	.....	.....	147.17
	$480.94	$22.47	$1,725.27	$318.75	.....	.....	$2,547.43
TRANSMISSION AND DISTRIBUTION:							
City Transmission Lines	$2,581.51	$133.87	$48.02	$20.79	.....	.....	$2,784.19
City Reservoirs	34,881.09	1,015.62	1,040.03	2,489.63	.....	.....	39,426.37
Meter Expense	28,390.83	1,169.97	14,476.74	92.30	$5,182.24	*$144.35*	49,167.73
Street Department Expenses	21,047.97	836.45	18.27	.....	.....	.....	21,902.69
Operation of Corporation Yard	4,761.66	64.32	1,666.05	1,710.04	.....	89.32	8,291.39
Superintendence	48,548.64	704.10	191.10	409.85	.....	.....	49,853.69
Consumers' Premises Expenses	26,350.85	169.85	.....	529.05	.....	.....	27,049.75
Repairs—Distribution Mains	93,363.85	5,093.18	12,591.48	2,687.12	4,195.76	854.01	118,785.40
Repairs—Service Connections	78,912.02	8,562.30	14,830.77	310.93	13,666.19	3,106.18	119,388.39
Repairs—Building and Equipment	2,836.72	22.89	1,307.67	.....	.....	.....	4,167.28
	$341,675.14	$17,772.55	$46,170.13	$8,249.71	$23,044.19	$3,905.16	$440,816.88
Total City Distribution Division	$346,727.42	$17,863.71	$48,055.23	$8,653.52	$23,044.19	$3,905.16	$448,249.23

Italic figures denote loss and deficiency.

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 13
OPERATING EXPENSES—1946-47
Outside of San Francisco

	Labor	Use of Equipment	Materials and Supplies	Contractual Services	Miscellaneous	Total
SOURCE OF SUPPLY:						
SURFACE SOURCES:						
San Andres Reservoir	$14,845.33	$567.64	$601.31	$722.98	.....	$16,737.26
Crystal Springs Reservoir	33,295.05	1,394.85	2,221.06	1,428.21	292.33	38,631.50
Pilarcitos Reservoir	12,384.34	717.03	1,748.54	264.48	37.36	15,151.75
Calaveras Reservoir	8,739.81	343.76	492.79	904.44	91.62	10,572.42
	$69,264.53	$3,023.28	$5,063.70	$3,320.11	$421.31	$81,092.93
GROUND SOURCES:						
Sunol Filter Beds	$5,488.89	$98.93	$77.53	$973.77	.....	$6,639.12
Pleasanton Wells	754.36	115.88	131.65	.89	.....	1,002.78
	$6,243.25	$214.81	$209.18	$974.66	.....	$7,641.90
SUPPLY LINES:						
Bay Division Pipe Lines (Peninsula Division)	$19,567.26	$1,250.47	$2,251.29	$464.36	$1,107.10	$24,640.48
Stone Dam Aqueduct	6,716.11	473.24	43.05	154.00	.....	7,386.40
Niles-Irvington Pipe Line	2,019.84	935.57	100.79	.....	.....	3,056.20
Bay Division Pipe Lines (Alameda Division)	12,063.75	999.24	1,511.53	163.09	.....	14,737.61
Other Supply Lines and Aqueducts—Peninsula Division	1,184.28	27.48	6.00	22.22	.....	1,239.98
Other Supply Lines (Alameda Division)	988.64	315.20	73.66	2.75	.....	1,380.25
	$42,539.88	$4,001.20	$3,986.32	$806.42	$1,107.10	$52,440.92
GENERAL EXPENSES:						
Alameda System	$23,151.58	$1,109.78	$1,955.40	$386.15	.....	$26,602.91
Peninsula System	69,337.50	2,477.84	8,903.94	3,792.17	$14.40	84,525.85
Total Outside City	$92,489.08	$3,587.62	$10,859.34	$4,178.32	$14.40	$111,128.76
Total Source of Supply	$210,536.74	$10,826.91	$20,118.54	$9,279.51	$1,542.81	$252,304.51

SAN FRANCISCO WATER DEPARTMENT
SCHEDULE No. 14
OPERATING EXPENSES—1946-47
Outside of San Francisco

	Labor	Use of Equipment	Materials and Supplies	Fuel or Power	Contractual Service	Total
PUMPING STATIONS:						
Baden Pump	$3,064.34	$159.56	$398.49	$2,802.50	$173.97	$6,598.86
Crystal Springs Pump	17,892.71	862.58	1,018.09	81,919.56	655.03	102,347.97
Bay Division Pump	1,389.63	.....	13.93	480.00	.....	1,883.56
Pleasanton Pump	600.40	75.27	38.37	176.64	69.30	959.98
Pleasanton Township Water District	1,092.29	22.26	2.61	328.14	366.54	1,811.84
Outside Pumping Expenses	$24,039.37	$1,119.67	$1,471.49	$85,706.84	$1,264.84	$113,602.21
PURIFICATION:						
San Andres Reservoir	$1,177.83	$368.28	$2,873.59	.....	$85.08	$4,504.78
Crystal Springs Reservoir	1,013.68	334.39	5,432.40	.....	138.36	6,918.83
Calaveras Reservoir	1,995.56	793.33	9,912.84	.....	1,509.63	14,211.36
Sunol Purification System	740.72	14.49	149.99	.....	.....	905.20
Other Outside Stations	264.62	32.14	134.01	.....	46.40	477.17
Coast Range Division—Hetch Hetchy Water Supply	1,127.82	1,361.07	13,003.03	.....	1,592.51	17,084.43
Millbrae Laboratory	29,423.08	2,797.06	1,516.70	.....	2,699.14	36,435.98
Outside Purification Expenses	$35,743.31	$5,700.76	$33,022.56	.....	$6,071.12	$80,537.75

TRANSMISSION AND DISTRIBUTION:

Peninsula Division:

Alameda Supply Line	.....	$347.64	.....	.....	.....	$347.64
Alameda Transmission Line	$9,393.18	742.96	$1,464.05	.....	$369.83	11,970.02
Crystal Springs Aqueduct	5,619.52	191.07	2.48	.....	79.60	5,892.67
Crystal Springs Transmission Line (New)	5,991.51	738.78	669.18	.....	136.87	7,536.34
Crystal Springs Transmission Line (Old)	8,887.64	303.25	67.61	.....	126.85	9,385.35
San Andres Transmission Line No. 1—To College Hill	5,848.31	252.30	433.38	.....	398.62	6,932.61
San Andres Transmission Line No. 2—To Lake Honda	2,428.72	35.58	215.93	.....	33.70	2,713.93
San Andres Transmission Line No. 3—To Merced Manor	1,494.73	87.31	81.54	.....	33.95	1,697.53
Palo Alto Pipe Line	69.82	.....	.....	.....	2.00	71.82
Meter Expense	8,915.48	1,331.29	1,531.78	.....	263.09	12,041.64
Total Peninsula Division Expenses	$48,648.91	$4,030.18	$4,465.95	.....	$1,444.51	$58,589.55
Niles Regulating Reservoir	2,862.38	65.11	521.09	.....	28.41	3,476.99
Alameda Supply Line	223.24	221.50	.....	.....	34.26	479.00
Pleasanton Transmission Line	144.30	21.54	7.16	.....	.....	173.00
Meter Expense	110.53	23.29	11.81	.....	13.80	159.43
Total Alameda Division Expense	$3,340.45	$331.44	$540.06	.....	$76.47	$4,288.42
Total Transmission and Distribution Expenses Outside the City of San Francisco	$51,989.36	$4,361.62	$5,006.01	.....	$1,520.98	$62,877.97

SAN FRANCISCO WATER DEPARTMENT

SCHEDULE No. 15

OPERATING EXPENSES—1946-47

	Labor	Use of Equipment	Materials and Supplies	Contractual Services: Bank Collections	Contractual Services: Other	Fixed Charges	Miscellaneous	Total
COMMERCIAL EXPENSES:								
Collections	$113,852.03	$2,085.72	$2,527.58	$29,540.80	$1,570.55	.....	.....	$149,576.68
Reading Meters	70,962.48	1,039.19	398.35	.....	1,015.22	.....	.....	73,415.24
Bookkeeping Division	154,535.35	.....	3,733.15	.....	1,207.70	.....	.....	159,476.20
General and Miscellaneous	32,588.07	725.67	854.27	.....	21,268.97	.....	.....	55,436.98
Inspection and Service	51,306.15	10,485.67	600.01	.....	1,458.47	.....	.....	63,850.30
Shipping	19,696.54	370.75	470.07	.....	4,072.17	.....	.....	24,609,53
	$442,940.62	$14,707.00	$8,583.43	$29,540.80	$30,593.08	.....	.....	$526,364.93
GENERAL AND MISCELLANEOUS:								
Salary of General Officers	$18,686.77	.....	.....	.....	.....	.....	.....	$18,686.77
Salary of General Office Clerks	57,822.76	.....	.....	.....	.....	.....	.....	57,822.76
Public Utilities Commission Expenses	.....	.....	.....	.....	.....	.....	$38,640.70	38,640.70
Miscellaneous Supplies and Expenses	1,220.46	.....	4,507.31	.....	2,780.44	.....	.....	8,508.21
General Engineering	48,685.08	2,780.95	2,770.86	.....	2,522.93	.....	.....	56,759.82
Hydrography	402.62	148.62	160.74	.....	622.88	.....	.....	1,334.86

Telephone Services	10,323.98	.....	82.46	.....	8,726.79	.....	.....	19,133.23
Mason Street Building Operations	20,057.38	.....	1,203.61	.....	7,472.46	.....	.....	28,733.45
Rest Room and Guest Cottages	1,458.00	.....	144.22	.....	220.65	.....	.....	1,822.87
Advisory and Consulting Expenses	.....	.....	.....	.....	3,100.00	.....	.....	3,100.00
Repairs—Mason Street Building	1,551.19	31.66	138.42	.....	3,184.73	.....	.....	4,906.00
Repairs—Telephone System	8,280.36	1,192.05	1,556.69	.....	81.32	.....	.....	11,110.42
Repairs—Extraordinary: Move Employees' Cottage—Belmont	.....	.....	.....	.....	7,558.69	.....	.....	7,558.69
Cleanup Non-Operative Property	4,628.04	579.82	273.36	.....	81.07	.....	.....	5,562.29
	$173,116.64	$4,733.10	$10,837.67	.....	$36,351.96	.....	$38,640.70	$263,680.07
OTHER OPERATING EXPENSES:								
Insurance Compensations	.....	.....	.....	.....	.....	$9,480.89	.....	$9,480.89
Insurance—Other	.....	.....	.....	.....	.....	6,500.10	.....	6,500.10
Injuries and Damages	.....	.....	.....	.....	.....	3,147.44	.....	3,147.44
Pensions	.....	.....	.....	.....	.....	42,270.66	.....	42,270.66
Property Taxes	.....	.....	.....	.....	.....	331,692.26	.....	331,692.26
Miscellaneous	.....	.....	.....	.....	.....	1,056.00	.....	1,056.00
	.....	.....	.....	.....	.....	$394,147.35	.....	$394,147.35

SAN FRANCISCO WATER DEPARTMENT

SCHEDULE No. 16

ADDITIONS, BETTERMENTS AND REPLACEMENTS—1946-1947

		Retirements	Additions	Labor Plus Overhead	Use of Equipment	Contract Payments	Land	Equipment	Materials and Supplies	Contractual Services	Paving
1015	Landed Capital										
	Purchase of Land	.....	$31,314.94	.....	.....	.....	$31,314.94	.....	.....	.....	.....
	Sale of Land	$48,754.81	.....	.....	.....	.....	.....	.....	.....	.....	.....
1020	Buildings, Structures and Grounds	3,363.00	2,741.93	.....	.....	.....	.....	$1,764.93	.....	$977.00	.....
1025	Source of Supply	275.00	1,980.42	$500.19	.....	.....	.....	441.52	$663.71	375.00	.....
1030	Pumping Station Equipment	20,631.82	877.64	.....	.....	.....	.....	677.64	.....	200.00	.....
1035	Purification Capital	.....	5,392.22	.....	.....	.....	.....	3,852.41	.....	1,539.81	.....
1040	Transmission and Distribution Capital—San Francisco										
	Main Extensions—Less than $1,000.00	.....	5,999.55	2,855.82	$239.80	.....	.....	.....	2,087.67	15.00	$801.26
	Main Extensions—Over $1,000.00	.....	195,439.59	21,051.44	1,622.61	$135,053.24	.....	.....	30,383.84	516.70	6,811.76
	Meters Installed	.....	74,200.93	7,303.34	658.80	.....	.....	.....	64,909.44	783.32	546.03
	Services Installed	.....	66,352.23	35,992.65	5,599.68	.....	.....	.....	11,268.52	6,044.50	7,446.88
	Cut In Gate Valves	.....	2,654.88	1,505.87	60.60	.....	.....	.....	953.17	16.30	118.94
	Other Structures	4,103.90	7,634.99	2,890.76	193.40	.....	.....	1,382.82	3,168.01	.....	.....
	*Bay Bridge Pump and Supply Line	.....	111,509.00	.....	.....	111,509.00	.....	.....	.....	.....	.....
	Total Transmission and Distribution	$4,103.90	$463,791.17	$71,599.88	$8,374.89	$246,562.24	.....	$1,382.82	$112,770.65	$7,375.82	$15,724.87
1045	General Equipment	$900.03	$17,771.27	.....	.....	.....	.....	$17,771.27	.....	.....	.....
1046	Automotive Equipment	16,316.23	53,924.92	.....	.....	.....	.....	53,924.92	.....	.....	.....
1048	Non-Operative Capital	60.23	.....	.....	.....	.....	.....	.....	.....	.....	.....
1047	Bay Bridge Pump and Supply System Transferred—Out	368,015.42	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Net Increase	115,374.07	.....	.....	.....	.....	.....	.....	.....	.....	.....
		$577,794.51	$577,794.51	$72,100.07	$8,374.89	$246,562.24	$31,314.94	$79,815.51	$113,434.36	$10,467.63	$15,724.87

*Appraised Value.

APPENDIX

TO

REPORT OF SAN FRANCISCO WATER DEPARTMENT

CONTENTS

WATER PRODUCTION DIVISION

Table No. 1	San Francisco Rainfall by Months Seasons 1943-44 to 1946-47
Table No. 2	Season Rainfall—Watershed Stations Seasons 1943-44 to 1946-47
Table No. 3	Maximum and Minimum Storage
Table No. 4	Water Drawn from Hetch Hetchy and Auxiliary Sources
Table No. 5	Consumption in Million Gallons per Day
Table No. 5–A	Average Daily Consumption since 1865
Table No. 6	Delivery through Pipe Lines in Million Gallons Daily
Table No. 7	Source of Water Transported Across San Francisco Bay
Table No. 8	Comparative Pumping Costs

CITY DISTRIBUTION DIVISION

Table No. 9	Average Daily Consumption by Districts
Table No. 9–A	Peak Day Consumption by Districts
Table No. 10	Unit Cost for Meter Maintenance
Table No. 11	Unit Cost of Meter Installation
Table No. 12	Unit Cost of Service Connection
Table No. 13	Pipe Record for Fiscal Year
Table No. 13–A	Valve Record

ENGINEERING DIVISION

Table No. 14	Contract Data

WATER SALES DIVISION

Table No. 15	Gross Metered Service, Revenue, etc.
Table No. 15–A	Charges of Non-Paying Municipal Accounts
Table No. 15–B	Charges of Paying Municipal Accounts
Table No. 15–C	Water Deliveries at Consumers' Meters
Table No. 16	Meters Installed—San Francisco District
Table No. 16–A	Meters Installed—Suburban District
Table No. 17	Street Main Taps and Service Connections Record
Table No. 18	Official Meter Tests
Table No. 19	Record of Bad Water Complaints
Table No. 20	Record of No Water Complaints
Table No. 21	Record of Building Permits
Table No. 22	Number of Building Permits
Table No. 23	Contract Jobs Handled

AGRICULTURAL DIVISION

Table No. 24	Returns and Expenses—Agricultural Division

TABLE No. 1
SAN FRANCISCO RAINFALL IN INCHES—BY MONTHS
U. S. Weather Bureau

Month	Season 1943-44	Season 1944-45	Season 1945-46	Season 1946-47	Normal
July	T	0.01	0	0.06	0.02
August	0	0.02	0	0	0.01
September	0.02	0	0.04	0.06	0.45
October	0.74	1.70	1.95	0.15	1.12
November	0.80	6.24	3.24	2.73	2.35
December	2.69	3.97	9.84	2.77	3.95
January	4.31	1.33	1.76	1.35	4.54
February	5.34	3.43	2.03	2.65	3.85
March	0.83	4.15	2.34	3.64	3.14
April	2.07	0.32	0.05	0.17	1.61
May	0.94	0.64	0.37	0.67	0.80
June	0.12	0.01	0.02	0.64	0.18
Totals	17.86	21.82	21.64	14.89	22.02

"T"—trace; amount too small to measure. 1946-47 Season 67.62% of normal.

TABLE No. 2
SEASONAL RAINFALL IN INCHES—WATERSHED STATIONS
Water Department Records

Station	Season 1943-44	Season 1944-45	Season 1945-46	Season 1946-47	Normal
San Francisco	17.86	21.82	21.64	14.89	22.02
Pilarcitos	32.04	41.04	41.74	25.93	45.58
San Andres	24.26	30.77	27.47	17.83	37.87
Crystal Springs—Upper	22.03	25.60	25.40	16.65	32.62
Crystal Springs—Lower	20.70	24.75	23.26	14.81	27.93
Crystal Springs—Cottage	23.52	27.90	27.27	18.10	27.09
Lake Merced	19.18	23.05	20.53	15.07	21.56
Pleasanton	15.74	16.91	14.89	14.29	21.35
Calaveras	17.92	18.81	16.50	12.35	24.38
Sunol	15.20	17.50	15.57	12.76	20.66
Niles	15.35	16.86	15.48	12.78	20.02
Hetch Hetchy	29.23	37.60	36.43	27.54	33.94
Lake Eleanor	36.79	50.20	47.47	37.65	40.51
Moccasin	24.58	30.83	26.76	19.17	26.53

TABLE No. 3
MAXIMUM AND MINIMUM STORAGE
(Exclusive of Hetch Hetchy Sources)
MILLION GALLONS

	1944		1945		1946		1947	
	Max. Mar. 26	Min. Jan. 21	Max. Apr. 15	Min. Jan. 30	Max. Apr. 10	Min. Nov. 18	Max. as of Apr. 9	Max. as of June 30
Calaveras	27,891	13,796	31,675	17,119	24,189	13,689	14,270	10,484
Crystal Springs	17,913	15,669	15,881	18,338	19,257	18,059	18,816	17,887
San Andres	3,803	4,876	3,945	363	6,028	5,730	4,915	4,885
Pilarcitos	556	396	803	348	611	444	572	542
Lake Merced	2,609	2,621	2,615	2,612	2,624	2,486	2,621	2,550
City Reservoirs	261	252	279	292	285	297	289	271
Totals	53,033	37,610	55,198	39,072	52,994	40,705	41,583	36,619

TABLE No. 4
WATER DRAWN FROM HETCH HETCHY AND AUXILIARY SOURCES
MILLION GALLONS

	1943-44	1944-45	1945-46	1946-47
Hetch Hetchy Water Supply	9,391	17,761	18,616	22,594
Pleasanton Wells	91*	3*	0	0
Sunset Wells	0	0	0	0
Totals	9,482	17,764	18,616	22,594

*For local consumption only.

TABLE No. 5
CONSUMPTION IN MILLION GALLONS PER DAY

Year	San Francisco	Sub-urban	Total System	Max. Day	Min. Day	Max. Month	Min. Month
1930-31	49.2	3.1	52.3	66.7	41.3	57.8	47.0
1931-32	49.3	2.8	52.1	65.6	39.6	59.4	47.5
1932-33	46.4	2.7	49.1	60.4	39.9	54.3	44.6
1933-34	47.3	2.6	49.9	64.3	39.1	53.7	45.1
1934-35	48.1	2.4	50.5	65.4	41.3	58.1	46.2
1935-36	52.3	2.5	54.8	68.0	43.0	62.1	50.3
1936-37	55.1	3.4	58.5	70.7	45.7	63.8	51.8
1937-38	53.3	5.0	58.3	72.4	46.7	65.4	53.4
1938-39	56.2	6.4	62.6	84.6	48.5	77.5	54.8
1939-40	59.6	9.0	68.6	89.5	51.6	76.6	60.9
1940-41	60.7	7.3	68.0	90.0	52.0	77.9	60.6
1941-42	63.5	7.7	71.2	94.5	53.1	85.7	61.7
1942-43	69.2	8.6	77.8	106.9	60.2	92.3	68.6
1943-44	76.1	11.4	87.5	109.9	70.4	101.1	76.8
1944-45	79.0	17.9	96.9	134.9	74.7	116.5	85.2
1945-46	83.7	17.2	100.9	131.9	72.9	115.3	88.0
1946-47	83.3	18.6	101.9	135.6	76.5	117.0	86.2

TABLE No. 5-A
AVERAGE DAILY CONSUMPTION SINCE 1865

Year	M.G.D.	Year	M.G.D.	Year	M.G.D.	Year	M.G.D.
1865	2.4	1885	17.0	1905	34.9	1925	42.6
1870	6.0	1890	20.4	1910	35.6	1928	50.1
1875	11.7	1895	19.9	1915	42.6	1929	52.1
1880	12.7	1900	25.5	1920	36.2	1930	52.1

TABLE No. 6
DELIVERY THROUGH PIPE LINES IN MILLION GALLONS DAILY

	1943-44	1944-45	1945-46	1946-47
Water transported into San Francisco:				
San Andres 54″ pipe	27.4	17.3	32.2	29.6
College Hill 30″ Supply Line	7.6	7.3	7.2	7.3
Baden Merced Branch 30″ pipe	9.3	10.0	9.8	8.8
Crystal Springs 44″ pipe	11.9	16.1	12.8	10.5
Crystal Springs 60″ pipe	19.9	28.3	21.7	27.1
Total San Francisco Consumption	76.1	79.0	83.7	83.3
Water transported from Crystal Springs to San Andres Reservoir:				
Crystal Springs Pump Aqueduct	19.1	21.6	32.1	34.6
Water transported across San Francisco Bay:				
Bay Division 60″ and 66″ pipes	69.6	84.8	100.8	98.5
Alameda 36″ pipe	0.0	0.0	0.0	0.0

TABLE No. 7
SOURCE OF WATER TRANSPORTED ACROSS SAN FRANCISCO BAY
YEARLY AVERAGE MILLION GALLONS DAILY

	1943-44	1944-45	1945-46	1946-47
Pleasanton Wells	0.0	0.0	0.0	0.0
Sunol Filters and Calaveras Reservoir	45.4	37.3	50.1	36.5
Hetch Hetchy Water Supply	24.2	47.5	50.7	62.0
Totals	69.6	84.8	100.8	98.5

TABLE No. 8
COMPARATIVE PUMPING COSTS

	1943-44	1944-45	1945-46	1946-47
SAN ANDRES PUMP				
Water pumped, gallons	6,975,300,000	7,879,620,000	11,714,340,000	12,606,270,000
Electric power, KWH	6,902,400	7,993,600	11,648,000	11,631,900
Power cost	$46,449.00	$51,449.51	$74,632.24	$81,919.56
Labor cost	11,679.10	13,161.07	13,623.79	14,938.35
Miscellaneous	1,535.76	1,151.92	2,193.14	3,356.21
Totals	$59,663.86	$65,762.50	$90,449.17	$100,214.12
Cost per million gallons	$8.55	$8.35	$7.72	$7.95
Cost per million gallon feet	0.0396	0.0385	0.0355	0.0374
CENTRAL PUMP				
Water pumped, gallons	3,209,710,000	3,188,380,000	3,501,430,000	3,644,955,000
Gas burned, cu. ft.	116,554,000	134,013,000	108,174,000	102,747,100
Oil burned, gallons	117,274	15,461	28,816	45,332
Electric power, KWH	195,000	103,200	16,200	7,800
Fuel and power cost	$23,544.86	$21,852.21	$20,203.06	$28,786.83
Labor cost	35,554.54	36,466.96	39,988.00	46,203.51
Miscellaneous	1,886.26	2,170.72	2,812.75	2,092.14
Totals	$60,985.66	$60,489.89	$63,003.81	$77,082.48
Cost per million gallons	$19.00	$18.97	$17.99	$21.15

TABLE No. 9
AVERAGE DAILY CONSUMPTION BY DISTRICTS
GALLONS

	1946-47	1945-46	Increase or *Decrease*	Per Cent Increase or *Decrease*
Forest Hill	716,293	669,249	+47,044	+7.0
Stanford Heights	9,986,326	9,565,729	+420,597	+4.4
Lake Honda	31,142,534	29,045,416	+2,097,118	+7.2
College Hill	9,082,540*	9,094,959*	−12,419	−0.1
University Mound	31,328,118	34,426,575	−3,098,457	−9.0
Merced Manor	1,058,770*	900,896*	+157,874	+17.5
Total City	83,314,581*	83,702,824*	−388,243	−0.5
Suburban	18,573,924	17,196,033	+1,377,891	+8.1
Total Entire System	101,888,505	100,898,857	+989,648	+1.0

*Merced Manor consumption not measured directly; any inaccuracies would reflect in Suburban and College Hill consumption.

TABLE No. 9-A
PEAK DAY CONSUMPTION BY DISTRICTS
GALLONS

District	1946-47	1945-46	1944-45
Forest Hill	1,346,000	1,182,000	1,321,000
Stanford Heights	13,749,000	12,493,000	13,197,000
Lake Honda	40,006,000	39,727,000	36,156,000
College Hill	11,367,000	13,250,000	11,628,000
University Mound	43,026,000	49,478,000	42,942,000
Merced Manor	2,667,000	2,417,000	1,508,000
San Francisco (combined)	101,444,000	104,097,000	104,789,000
Suburban	40,337,000	30,073,000	29,764,000
System Peak	135,586,000	131,929,000	134,859,000

TABLE No. 10
UNIT COST OF METER MAINTENANCE

Year	Meters in Use	Total Cost	Cost Per Meter	Labor Cost Per Meter	Material Cost Per Meter
1941-42	131,052	$46,739.38	$0.36	$0.19	$0.128
1942-43	131,375	39,281.88	0.30	0.194	0.062
1943-44	132,873	44,264.92	0.33	0.220	0.079
1944-45	134,133	46,602.31	0.35	0.212	0.099
1945-46	136,549	41,576.76	0.30	0.179	0.121
1946-47	139,690	49,167.73	0.35	0.203	0.147

TABLE No. 11
UNIT COST OF METER INSTALLATION

	1943-44	1944-45	1945-46	1946-47
Meters set	1,895	2,011	2,566	3,766
Per cent ¾" and smaller	90.7	92.0	92.3	92.7
Labor	$1.85	$1.94	$1.35	$1.61
Supervision	0.41	0.30	0.23	0.34
Meter	14.96	14.21	12.41	13.95
Material	1.84	7.15	2.07	2.73
Equipment	0.22	0.36	0.20	0.17
Paving	0.16	0.19	0.33	0.15
Miscellaneous	0.02	0.01	0.01	0
	$19.46	$24.16	$16.60	$18.95

TABLE No. 12
UNIT COST OF SERVICE CONNECTION

	1943-44	1944-45	1945-46	1946-47
Services Installed	1,221	1,437	2,112	2,789
Per cent ¾"	95.4	95.0	96.2	89.7
Labor	$6.81	$7.65	$7.81	$10.79
Supervision	1.42	1.12	1.26	2.13
Material	4.16	3.75	4.98	4.05
Equipment	1.30	2.06	1.66	2.01
Paving	1.59	2.25	2.14	2.67
Miscellaneous	0.54	0.61	0.55	0.05
	$15.82	$17.44	$18.40	$21.70

TABLE No. 13
PIPE RECORDS FOR 1946-47
CITY DISTRIBUTION SYSTEM

Wrought Iron and Steel Pipe

Size	Total Pipe in Ground July 1, 1946	Pipe Laid 1946-47	Removed or Abandoned 1946-47	Total Pipe in Ground June 30, 1947
¾"	12,278′	5′	0′	12,283′
1"	42,071	592	162	42,501
1¼"	3,928	0	0	3,928
1½"	176,230	102	230	176,102
2"	304,412	684	3,420	301,676
3"	28,024	0	0	28,024
4"	3,979	0	0	3,979
5"	804	0	0	804
6"	3,809	0	0	3,809
12"	6,555	0	0	6,555
13"	456	0	0	456
16"	25,587	0	0	25,587
20"	65,728	0	0	65,728
22"	24,311	0	0	24,311

TABLE No. 13—Continued

Size	Total Pipe in Ground July 1, 1946	Pipe Laid 1946-47	Removed or Abandoned 1946-47	Total Pipe in Ground June 30, 1947
23½"	9,087	0	0	9,087
24"	26,443	14,940	0	41,383
30"	26,953	0	0	26,953
33"	2,409	0	0	2,409
36"	40,854	38	0	40,892
37½"	8,896	0	0	8,896
44"	22,974	0	0	22,974
48"	11,504	0	0	11,504
60"	9,981	0	0	9,981
Total W. I. & S.	857,273′	16,361′	3,812′	869,822′
Transite Pipe				
6"	0′	4,309′	0′	4,309′
8"	0	661	0	661
Total Transite	0′	4,970′	0′	4,970′
Cast Iron Pipe				
2"	21,129′	1,339′	0′	22,468′
3"	61,982	19	0	62,001
4"	495,884	3,237	4,141	494,980
6"	1,660,454	9,091	370	1,669,175
8"	1,436,463	25,206	4,409	1,457,260
10"	6,873	0	0	6,873
12"	413,400	6,258	76	419,582
16"	252,064	18	0	252,082
20"	22,642	0	0	22,642
22"	19,058	0	0	19,058
24"	52,171	2	0	52,173
30"	6,138	0	30	6,108
Total C. I.	4,448,258′	45,170′	9,026′	4,484,402′
Total All	5,305,531′	66,501′	12,838′	5,359,194′
Miles	1,004.84	12.589	2.430	1,014.999

TABLE No. 13-A
VALVE RECORD
CITY DISTRIBUTION SYSTEM
June 30, 1947

Gates		Service Gates		Blowoffs		Air Valves		Check Valves	
2″	94	3″	398	¾″	9	¾″	32	1½″	7
3″	246	4″	346	1″	45	1″	14	2″	9
4″	1,138	6″	214	1½″	289	1½″	301	3″	1
6″	3,529	8″	139	2″	826	2″	226	4″	9
8″	3,299	12″	6	3″	193	3″	5	6″	25
10″	6			4″	242	4″	1	8″	35
12″	765			6″	157	6″	13	12″	3
16″	395			8″	107	8″	224	16″	3
20″	23			12″	21				
22″	20	Stop Cocks		16″	2				
24″	57								
30″	21	⅝″	18						
36″	20	¾″	140						
37½″	2	1″	203						
42″	1	1½″	988						
48″	1	2″	2,744						

TABLE No. 14
CONTRACT DATA 1946-47

Contract No.	Title of Contract	Division	Contractor	Date of Award	Date of Completion	% Completion 6/30/47	Bid Price	Contract Cost to 6/30/47
391	Lay 2" and 6" Mains and Installation of 100,000 gal. redwood tank, Twin Peaks Area south of Palo Alto Avenue	City Dist.	S. F. W. D.	9/24/45	7/17/46	100%	$6,490.20	$5,731.05
395	Lay 6" and 8" C.I. Mains, Embarcadero Area, Chestnut to Market	City Dist.	S. F. W. D.	7/ 9/45	8/30/46	100%	7,883.58	8,614.70
397	Lay 24" Steel and 12" C.I. Mains, Pacific, Jackson and Franklin	City Dist.	Pacific Pipe Line Constr.	9/ 4/45	2/21/47	100%	134,453.95	132,220.97
398	Lay 8" and 12" C.I. Mains, Embarcadero Area, Taylor to Bay	City Dist.	S. F. W. D.	7/16/45	8/21 46	100%	21,320.40	23,839.31
404	Excavation and Embankment, Sutro Reservoir	City Dist.	Piombo Bros. & Co.	12/27/45	5/ 9/47	100%	157,274.50	168,629.13
409	Constructing Chlorinating Plant Bldg. at University Mound Reservoir	City Dist.	N. O. Wiseth	4/30/46	10/ 7/46	100%	3,277.00	3,277.00
410	San Andres Outlet No. 3, Connecting Pipes	Peninsula	Macco Constr. Co. & Morrison-Knudsen Co., Inc.	7/ 8/46	6/21/47	100%	328,173.00	311,068.41
411-A	Constructing Lincoln Park Pump Station Bldg.	City Dist.	N. O. Wiseth	4/1/46	7/12/46	100%	1,635.00	1,635.00
411-B	Installation of Equipment for Lincoln Park Pump Stn.	City Dist.	S. F. W. D.	10/28/46	3/27/47	100%	4,907.63	4,900.60
413	Installing Hot Water Storage Tank and Alterations to Boiler Room, S.F.W.D. Building	General	O'Mara & Stewart	4/ 8/46	8/ 8/46	100%	1,827.00	1,827.00
420	Painting Forest Hill Steel Tank	City Dist.	Deemer & Deemer	4/30/36	8/ 8/46	100%	1,950.00	2,140.00
422	Lay 6" and 8" C.I. Mains, 40th, 41st, 42nd, 45th Aves. and Pacheco Street	City Dist.	Fred T. Fairey	5/13/46	6/13/47	100%	13,576.50	10,914.31
424	Lay 4", 6", 8" and 12" C.I. Mains in Anza Vista Subdivision	City Dist.	E. J. Treacy	7/ 1/46	6/ 9/47	100%	50,874.50	50,812.25
425	Lay 4", 6", 8" and 12" C.I. Mains, Laurel Heights Subdivision	City Dist.	E. J. Treacy	7/ 8/46		0%	40,344.50	.....
426	Lay 6", 8" and 12" C.I. Mains, Miraloma Park Subdivision	City Dist.	Fred T. Fairey	6/30/47		0%	22,537.80	.....

428	Lay 8", 12" and 16" C.I. Mains in Apparel City	City Dist.	E. J. Tobin	9/ 3/46	4/ 9/47	100%	50,429.50	38,589.54
429	Lay 6" and 8" C.I. Mains, Thrift Street, Eucalyptus Drive and Girard Street	City Dist.	Fred T. Fairey	6/24/46	7/14/46	100%	8,292.50	7,060.42
430	Repaving Street and Sidewalk Openings, Fiscal Year 1946-47	City Dist.	Pacific Pavements Co.	6/24/46	6/30/47	100%	49,995.00	37,929.96
431	Lay 8" Main and 8" Fire Service, Empire Lane	City Dist.	S. F. W. D.	7/15/46	9/10/46	100%	1,757.75	1,172.35
432	Lay 6" and 8" C.I. Mains, 39th, 42nd, 44th Aves., Pacheco and Rivera Streets	City Dist.	Fred T. Fairey	7/ 8/46	6/27/47	100%	10,992.25	11,094.98
433	Moving Employee Cottage at Belmont	Peninsula	Hanson Bros.	7/22/46	12/12/46	100%	7,450.00	7,450.00
434	Lay 6" C.I. Main, Velasco, Castillo, Pueblo, Calgary Streets, Palmetto and Alemany Blvd.	City Dist.	Fred T. Fairey	7/22/46	10/ 1/46	100%	8,592.40	8,445.57
435-R	Replacing Storage Bldg., Millbrae	Peninsula	Peter Sorensen	2/24/47	5/30/47	100%	8,477.00	8,612.00
436	Construction of Irvington Pumping Station	Alameda	Fred J. Early Jr. Co. Inc.	3/31/47		14%	87,559.50	11,375.92
437	Harvesting Walnut Crop at Sunol	Agricultural	Travis M. Boone	9/10/46	11/16/46	100%	13,415.00	15,166.99
440	Lay 8" C.I. Main, Pennsylvania St. and Geneva Ave.	City Dist.	Fred T. Fairey	10/28/46	12/30/46	100%	5,768.10	5,416.48
441	Lay 4" and 8" C.I. Mains, Chestnut, Hyde, Hanover Streets and Rockridge Drive	City Dist.	S. F. W. D.	1/ 6/47	4/18/47	100%	6,659.25	5,574.54
442	Grading for Fence, University Mound Lots	City Dist.	Rosenberg Bros.	12/23/46	2/18/47	100%	965.25	965.25
443	Improvement of Van Ness Avenue (E. Side) North of North Point Street	City Dist.	Charles L. Harney	1/13/47	3/25/47	100%	3,778.00	3,778.00
444	Lay 8" C.I. Main, Edgeway Way and Kansas St.	City Dist.	Fred T. Fairey	2/17/47	3/17/47	100%	4,676.00	4,726.50
445	Construction of Fence for University Mound Lots in San Francisco	City Dist.	Anchor Post Products Co.	4/ 7/47	6/ 6/47	100%	3,599.95	3,629.02
447	Grading E. side of 28th Ave. between Pacheco and Quintara Streets	City Dist.	Devincenzi Bros. & Co.	3/ 3/47	4/ 3/47	100%	3,561.25	3,561.25
449	Lay 6" C.I. Main, 3rd St., Evans to Arthur Ave., and in Easement to Pier 92	City Dist.	E. J. Tobin	5/12/47		0%	36,136.25	.....
450	Lay 6" Transite and 2" and 8" C.I. Mains in 14th and Fanning Streets	City Dist.	S. F. W. D.	6/ 2/47		0%	7,948.75	.....
453	Lay 6" C.I. and 8" Transite Mains, Sunset & Parkside	City Dist.	Fred T. Fairey	6/17/47		0%	38,189.00	.....
454	Repaving Street and Sidewalk openings, Fiscal Year 1946-47	City Dist.	Pacific Pavements Co.	6/30/47		0%	58,055.00	.....

TABLE No. 15

Gross Metered Service Revenues, Service Charges and Special Service Revenues Also Record of Refunds, Allowances, Adjustments, Collections and Receivables

Comparisons—Fiscal Years 1943-44 to 1946-47

	1943-44	1944-45	1945-46	1946-47
Metered Service—Standard Rates				
Residential	$3,317,648	$3,182,610	$3,865,463	$4,119,120
Commercial (Incl. Contrs.)	3,068,360	3,039,345	3,632,212	3,609,808
Industrial	538,914	631,661	732,481	811,263
Municipal	348,269	315,811	360,489	396,063
Suburban	773,379	899,408	1,102,323	1,274,374
Total Metered Service	$8,046,570*	$8,068,835*	$9,692,968†	$10,210,628†
For Water Delivered	$6,818,489	$6,896,895	$8,338,108	$8,786,242
Ratio	84.7%	85.5%	86.0%	86.05%
Service Charges	$1,228,081	$1,171,940	$1,354,860	$1,424,386
Ratio	15.3%	14.5%	14.0%	13.95%
Special Service				
Fire Hydrants (S. F.)	$239,552	$240,728	$241,494	$243,197
Street Work and Sewers	574	.....	420	400
Contractors—Flat Rates	1,590	1,105	1,234	1,511
Miscellaneous	111,914	133,161	123,769	53,914
Suburban—Special Contracts	12,494	13,328	25,308	33,395
Total Special Service	$366,124	$388,322	$392,225	$332,417
Total Gross Charges	$8,412,694*	$8,457,157*	$10,085,193†	$10,543,045†
Deductions				
Cash Refunds	$889	$1,450	$6,262	$1,090
Allowances & Adjustments	44,583‡	44,875‡	38,762‡	22,604
Total	$45,472	$46,325	$45,024	$23,694
Net Sales	$8,367,222	$8,410,832	$10,040,169	$10,519,351
Collections	7,907,276	7,754,534	9,297,881	10,029,644
Consolidated Accounts Receivable at June 30	504,909	648,834	844,648	753,630
Memo				
Profit and Loss (Uncollectible Bills)	$454	$115	$830	$1,949

*15% Rate Reduction December 1, 1943 (San Francisco district only).
†System rates increased September 1, 1945.
‡Includes Victory Garden Allowances; 1943-44—$25,008.57; 1944-45—$27,503.22; July to October, 1945—$16,635.95.

TABLE No. 15-A
CHARGES OF NON-PAYING MUNICIPAL ACCOUNTS

For the Fiscal Years 1945-1946 and 1946-1947

	1945-1946	1946-1947	Increase	Decrease
Hydrants	$241,493.60	$243,197.40	$1,703.80	.....
Auxiliary Fire System	17,407.80	16,975.49	.....	$432.31
Fire Boats	613.26	482.38	.....	130.88
Fire Department	7,660.99	7,816.22	155.23	.....
Police Department	.....	3,268.16	3,268.16	.....
Parks	96,105.40	109,168.30	13,062.90	.....
Golden Gate Park Proper	43,853.35	48,221.28	4,367.93	.....
Playgrounds	25,193.08	30,348.95	5,155.87	.....
Libraries	1,502.94	1,809.24	306.30	.....
Opera House and War Memorial Building	2,156.05	2,291.94	135.89	.....
Opera House and War Memorial Building	812.34	976.47	164.13	.....
Opera House and War Memorial Sprinkler	36.00	36.00	.....	.....
Memorial Museum—Station M —Golden Gate Park, Fulton and 10th Avenue	1,212.50	1,118.55	.....	93.95
Curator—Palace of Legion of Honor—Lincoln Park—Clement and 39th Avenue	360.51	456.77	96.26	.....
Juvenile Court and Detention Home	.....	951.08	951.08	.....
Hospitality House	.....	10.46	10.46	.....
Purchaser of Supplies— City ond County, S. F.	13.53	243.06	229.53	.....
Exposition Auditorium	1,413.92	1,135.97	.....	277.95
Department of Public Works— Public Buildings	42,204.58	12,014.39	.....	30,190.19
Street Work and Sewers	420.01	399.57	.....	20.44
Street Cleaning	9,887.09	10,281.90	394.81	.....
Parked Areas Public Streets	5,468.58	6,118.07	649.49	.....
Department of Electricity— General Alarm Station	232.45	204.24	.....	28.21
Dept. of Public Health	26,383.33	28,778.35	2,395.02	.....
Dept. of Public Health	1,465.65	1,536.72	71.07	.....
Hassler Health Farm	5,238.87	6,776.02	1,537.15	.....
Relief Home	14,482.09	15,897.45	1,415.36	.....
Public Welfare Department	260.20	284.43	24.23	.....
Registrar of Voters	.....	419.53	419.53	.....
Municipal Railway	6,439.85	6,769.83	329.98	.....
Track Repairs	2.06	9.07	7.01	.....
Municipal Airport	1,725.10	3,997.64	2,272.54	.....
Troughs	139.37	91.67	.....	47.70
San Francisco County Jail	.....	22,563.00	22,563.00	.....
Agriculture Division	.....	74.47	74.47	.....
Civilian Defense Council	981.70	303.90	.....	677.80
Sharp Park	122.52	.....	.....	122.52
Retirement Board	.....	5.61	5.61	.....
City Planning Commission	.....	6.94	6.94	.....
Totals	$555,288.72	$585,040.52	$61,773.75	$32,021.95
		Net Increase	$29,751.80	

TABLE No. 15-B
CHARGES OF PAYING MUNICIPAL ACCOUNTS
For the Fiscal Years 1945-1946 and 1946-1947

	1945-1946	1946-1947	Increase
Schools	$47,114.04	$54,619.45	$7,505.41
Totals	$47,114.04	$54,619.45	$7,505.41

TABLE No. 15-C
WATER DELIVERIES AT THE CONSUMER'S METERS
San Francisco District

	1943-44	1944-45	1945-46	1946-47
Average Active Accounts	128,318	130,402	132,576	135,345
Number on June 30th	129,478	131,327	133,826	136,865
Metered Delivery (M.C.F.)				
Residential	1,040.2	1,115.8	1,201.5	1,244.9
Commercial and Industrial	1,817.3	2,051.9	2,133.2	2,018.0
Municipal—Actual	15.1	16.6	16.8	19.9
Municipal—Comparisons	198.9	188.9	187.1	196.3
Total (M.C.F.)	3,071.5	3,373.2	3,538.6	3,479.1
Average (M.G.D.)	63.1	69.3	72.7	71.4
Consumption Rec. (M.G.D.)	76.1	79.0	83.7	83.3
Difference (M.G.D.)	13.0	9.7	11.0	11.9
Ratio	17.1%	12.3%	13.1%	14.3%

Suburban District

Average Active Accounts	664	686	690	714
Number on June 30th	692	681	699	729
Metered Delivery (M.C.F.)				
Regular Rates	618.6	753.6	828.1	927.1
Contract Rates	17.3	17.7	28.1	34.3
Free Deliveries (Rip. Contract)	19.7	20.1	20.8	23.9
Total (M.C.F.)	655.6	791.4	877.0	985.3
Average (M.G.D.)	13.4	16.3	18.0	20.2

TABLE No. 16
METERS INSTALLED—SAN FRANCISCO DISTRICT

Revenue and Non-Revenue Producing as of June 30, 1947

Class of Consumer	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	12"	Total
Revenue Producing:											
Commercial	21,180	940	1,820	1,999	2,799	11	36	182	151	1	29,119
Residential	107,663	147	677	236	13	..	..	..	..	.	108,736
Dock and Ship...	144	9	33	33	98	1	..	2	1	2	323
Total	128,987	1,096	2,530	2,268	2,910	12	36	184	152	3	138,178
Non-Revenue Producing:											
Commercial	772	2	13	5	11	..	..	..	7	.	810
Residential	680	...	1	...	...	..	..	..	..	.	681
Dock and Ship...	....	...	...	...	13	7	..	..	1	.	21
Total	1,452	2	14	5	24	7	..	..	8	.	1,512
Total Meters Installed	130,439	1,098	2,544	2,273	2,934	19	36	184	160	3	139,690

Total Meters in Service as of June 30, 1947		139,690
Less: Extra Meters in 704 Batteries (1,939 meters—704)	1,235	
Less: Extra Meters in 41 Consolidations (119 meters—41)	78	
Non-Revenue Meters (Temporarily shut-off)	1,512	2,825
Number of Active Accounts as of June 30, 1947		136,865

NOTE: The above meter count includes 350 Automatic Sprinklers for fire purposes.

Previous Records

	1942-43	1943-44	1944-45	1945-46	1946-47
Total Meters	131,375	132,873	134,133	136,549	139,690
Increase	323	1,498	1,260	2,416	3,141
Idle Meters	2,998	2,156	1,569	1,477	1,512

TABLE No. 16-A
METERS INSTALLED—SUBURBAN DISTRICT

Revenue and Non-Revenue Producing as of June 30, 1947

Class of Consumers	5/8"	3/4"	1"	1½"	2"	4"	6"	8"	10"	Totals
Revenue Producing:										
Under Regular Rates	517	30	47	30	265	14	33	8	2	946
Under Special Contracts	4	..	1	1	28	..	..	.	.	34
Total	521	30	48	31	293	14	33	8	2	980
Non-Revenue Producing:										
Under Regular Rates	16	1	5	2	..	..	..	.	.	24
Total	16	1	5	2	..	..	..	.	.	24
Total Meters Installed	537	31	53	33	293	14	33	8	2	1,004

Total Meters in Service as of June 30, 1947		1,004
Less: Meters in excess of accounts	251	
Non-Revenue Producing Meters	24	275
Number of Active Suburban Accounts June 30, 1947		729

Comparisons:	5/8"	3/4"	1"	1½"	2"	4"	6"	8"	10"	Totals
Record June 30, 1943										
Revenue Producing	457	21	40	32	230	13	12	.	2	807
Non-Producing	12	..	2	1	17	..	..	1	.	33
Total	469	21	42	33	247	13	12	1	2	840
Record June 30, 1944										
Revenue Producing	482	23	42	31	254	13	18	.	2	865
Non-Producing	13	..	1	1	11	..	..	1	.	27
Total	495	23	43	32	265	13	18	1	2	892
Record June 30, 1945										
Revenue Producing	482	23	44	31	264	13	25	8	2	892
Non-Producing	15	1	3	3	10	1	..	1	.	34
Total	497	24	47	34	274	14	25	9	2	926
Record June 30, 1946										
Revenue Producing	501	25	48	35	278	12	30	7	2	938
Non-Producing	12	1	1	1	1	..	..	.	.	16
Total	513	26	49	36	279	12	30	7	2	954

TABLE No. 17

STREET MAIN TAPS AND SERVICE CONNECTIONS RECORD

San Francisco District—June 30, 1947

TAPS ON STREET MAINS

	Wharf	¾″	1″	1½″	2″	3″	4″	6″	8″	12″	16″	Totals
June 30, 1946	284	148,026	3,490	3,025	2,173	674	305	270	154	7	2	158,410
Add 1946-47	5	2,091	182	59	52	17	13	16	18	1	.	2,454
June 30, 1947	289	150,117	3,672	3,084	2,225	691	318	286	172	8	2	160,864

SERVICE CONNECTIONS

Services connected to street mains, as above	160,864
Add: "Distributors," being one or more additional meters connected to service pipes	11,840
Total connections of record	172,704
Deduct: Disconnected services	34,327
Net live services, all metered 138,178—active; temporary S/O 1,512, less 1,313 extra meters in batteries	138,377

Previous Records	1943-44	1944-45	1945-46
Active	130,717	132,564	135,072
Shut-off	2,156	1,569	1,477
Totals	132,873	134,133	136,549
Less extra battery meters	1,254	1,244	1,246
Net	131,619	132,889	135,303

SERVICE INSTALLATIONS

Fiscal Year 1946-47

District	Taps	Distributors	Total
Richmond District	125	114	239
Sunset District	904	116	1,020
North Market and Western Addition	226	89	315
South Market and Twin Peaks	1,210	102	1,312
Totals	2,465	421	2,886
Previous Years:			
1943-44	1,161	96	1,257
1944-45	1,438	293	1,731
1945-46	2,795	452	3,247

AUTOMATIC SPRINKLER INSTALLATIONS

October 26, 1932 to June 30, 1947

Size	1932-44	1944-45	1945-46	1946-47	Total	Installed prior to 10/26/32	Grand Total
4-inch	4	1	1	1	7	...	...
6-inch	66	1	5	8	80	...	...
8-inch	73	3	7	13	96	...	...
12-inch	2	0	0	2	4	...	...
Totals	145	5	13	24	187	163	350

TABLE No. 18

OFFICIAL METER TESTS

During Fiscal Year Ending June 30, 1947

	Number Tested													
Percentage	0	1	2	2.5	3	3.5	3.7	4	5	6	12.08	13.55	Total	Ratio
Fast	..	4	1	1	.	1	.	.	.	.	..	..	7	41.2%
Slow	..	3	.	1	1	.	.	.	.	.	..	..	5	29.4%
O. K.	5	.	.	.	.	.	.	.	.	.	..	..	5	29.4%
Total	5	7	1	2	1	1	.	.	.	.	..	..	17	100.0%
Previous Totals:														
Year 1943	7	8	7	.	1	.	.	.	1	1	..	..	25	
Year 1944	14	6	2	.	2	.	.	1	.	.	..	..	25	
Year 1945	2	2	5	.	.	.	.	.	.	.	..	..	9	
Year 1946	2	3	3	.	.	.	1	.	.	.	1	1	11	

Refunds 1946-47 account of over-registration $7.39.

No increases 1946-47 account of under-registration.

TABLE No. 19

RECORD OF BAD WATER COMPLAINTS

Comparisons of complaints received during Fiscal Years 1943-44 to 1946-47 with reference to the districts involved.

	1943-44	1944-45	1945-46	1946-47
University Mound	36	50	50	36
College Hill	38	93	57	53
Lake Honda Reservoir	114	83	74	76
Lake Honda Ocean View	91	119	53	52
Lake Honda Lombard	13	3	10	3
Forest Hill	9	25	2	3
Stanford Heights	65	346	96	81
Presidio Heights	10	264	23	15
Merced Manor	0	45	22	2
Totals	376	1,028	387	321

TABLE No. 20
RECORD OF NO WATER COMPLAINTS
Fiscal Years 1943-44 to 1946-47

	1943-44	1944-45	1945-46	1946-47
(a) Those for which the Department was responsible:				
Choked pipes	28	52	49	46
Service or main broken	11	20	27	28
Service or main too small	70	77	98	121
Elevation too high	22	24	32	50
S/O main or meter	18	12	16	5
District temporary S/D	1	2	0	0
Totals	150	187	222	250
Percentage	30.3%	32.1%	31.0%	30.9%
(b) Those for which the Consumers were responsible:				
House valves closed	107	83	103	85
House pipe too small	63	115	149	191
False reports	98	135	134	209
Valves out of order	56	35	71	41
House pipe broken	5	3	6	7
Building too high	2	8	6	1
Overloaded service	14	17	24	26
Totals	345	396	493	560
Percentage	69.7%	67.9%	69.0%	69.1%
Total "No Water"	495	583	715	810

TABLE No. 21
RECORD OF BUILDING PERMITS
Issued by the Department of Public Works
During the Fiscal Years 1943-44 to 1946-47

	1943-44	1944-45	1945-46	1946-47
Class "A"	.....	$282,945	$3,837,864	$2,641,100
Class "B"	.....	14,500	2,128,880	1,312,684
Class "C"	115,700	1,114,785	3,807,464	1,938,377
Frames	4,982,960	6,086,520	16,075,287	20,232,365
Alterations	4,301,169	3,251,176	9,892,320	10,719,879
Housing Authority S. F. Temp. War Dwellings.	2,722,000	.....	.....	.....
Totals	$12,121,829	$10,749,926	$35,741,815	$36,844,405

TABLE No. 22
NUMBER OF BUILDING PERMITS
Issued by the Department of Public Works
During the Fiscal Years 1943-44 to 1946-47

	1943-44	1944-45	1945-46	1946-47
Class "A"	0	6	13	11
Class "B"	0	1	20	12
Class "C"	6	20	105	73
Frames	1,512	1,345	2,508	2,463
Alterations	2,251	3,081	4,800	5,126
Totals	3,769	4,453	7,446	7,685

TABLE No. 23
NUMBER OF CONTRACTORS' JOBS HANDLED BY THE BUILDERS' AND CONTRACTORS' SUPPLY SECTION

Totals during the Fiscal Years:

1943-44	1,650
1944-45	1,642
1945-46	3,515
1946-47	3,228

TABLE No. 24

AGRICULTURAL DIVISION

RECEIPTS AND EXPENSES

	1942-43	1943-44	1944-45	1945-46	1946-47
Receipts, Agricultural:					
Rentals—Cattle Leases	$26,589.94	$40,248.05	$36,632.59	$41,223.30	$45,227.57
Rentals—Flat Rates	12,827.22	8,249.95	11,338.28	12,029.56	9,455.46
Rentals—Share Crops	14,656.98	14,436.26	12,990.91	11,850.08	18,113.57
Receipts, Non-Agricultural:					
Rentals—Flat Rates	8,789.61	10,118.01	10,108.24	11,009.83	10,182.60
Taxes Paid by Tenants	134.11	164.65	156.19	295.50	236.04
Royalties	1,988.99	6,716.62	7,602.43	9,906.28	20,827.78
Sale of Walnuts	44,000.73	49,552.64	29,487.66	62,893.03	73,017.57
Miscellaneous	.....	.....	76.06	.....	3,646.79
Total Gross Income	$108,987.58	$129,486.18	$108,392.36	$149,207.58	$180,707.38
Expenses:					
Administration and Superintendence	$4,426.92	$4,990.98	$7,345.85	$6,037.91	$12,210.07
Miscellaneous Office Supplies and Expenses	434.07	699.76	1,132.81	343.76	432.04
Automotive Service	446.82	548.27	520.56	579.38	760.44
Share Crops:					
Storage Insurance, Handling Freight	417.92	66.58	86.96	402.90	1,010.07
Care of Properties:					
Repairs—Buildings, Structures & Grounds	6,712.25	3,034.70	1,152.66	4,674.40	3,828.55
Walnut Orchard:					
Care of Orchard	6,173.20	12,744.47	14,931.94	16,272.21	13,128.67
Crop Harvest	13,518.67	10,174.93	7,132.46	13,610.05	17,380.72
Packing House and Selling Expense	1,744.12	1,178.80	2,585.94	4,418.39	.....
Total Operating Expenses	$33,873.97	$33,438.49	$34,889.18	$46,339.00	$48,750.56
Net Income	$75,113.61	$96,047.69	$73,503.18	$102,868.58	$131,956.82

ORGANIZATION AND PERSONNEL

N. A. Eckart.....General Manager and Chief Engineer

WATER PRODUCTION AND ENGINEERING

T. W. Espy.....Engineer of Water Production
*I. E. Flaa.....Hydraulic Engineer
C. A. Lauenstein.....Civil Engineer
L. A. McAtee.....Construction Engineer
W. A. Yount.....Superintendent Alameda Division
W. R. Anderson.....Assistant Superintendent Alameda Division
G. J. Davis.....Superintendent Peninsula Division
S. M. Millard.....Assistant Superintendent Peninsula Division
G. E. Fanning.....Photographer

CITY DISTRIBUTION

G. W. Pracy.....Superintendent City Distribution
O. G. Goldman.....Assistant Superintendent City Distribution
A. G. Zecher.....General Foreman City Pipe System
John E. O'Marie.....General Foreman Services and Meters
A. C. Doidge.....Senior Storekeeper
R. W. Tullis.....Foreman Machine Shop

WATER PURIFICATION

H. C. Medbery.....Chief Water Purification Engineer
†H. L. Fruitman.....Water Purification Engineer
E. W. Barbee.....Water Purification Engineer
H. W. Tracy.....Water Purification Engineer
M. H. Keyak.....Water Purification Engineer

WATER SALES

Joseph Conway.....Manager, Water Sales Division
J. W. Cooper.....Assistant Manager, Water Sales Division
W. D. Ryder.....Chief Clerk, Consumers' Accounts
James Hennessy.....Chief Clerk, Collections
E. R. Benninger.....Head Clerk, Water Sales Division
C. C. Clark.....Consumers' Complaint Investigator
Kearce Fahy.....Chief Adjuster, Consumers' Accounts
J. E. Huntoon.....Head Clerk, Consumers' Accounts
Chas. Hynes.....Head Clerk, Service and Supply
Francis Lennon.....Head Clerk, Closing Bills
J. A. Ragsdale.....Head Clerk, Docks and Shipping
C. C. Young.....Chief Water Service Inspector

LANDS AND AGRICULTURE

H. C. Melone.....Superintendent Agricultural Division

ACCOUNTS

E. J. White.....Senior Accountant
R. Stevenson.....Accountant
H. M. Kinsey.....Cashier

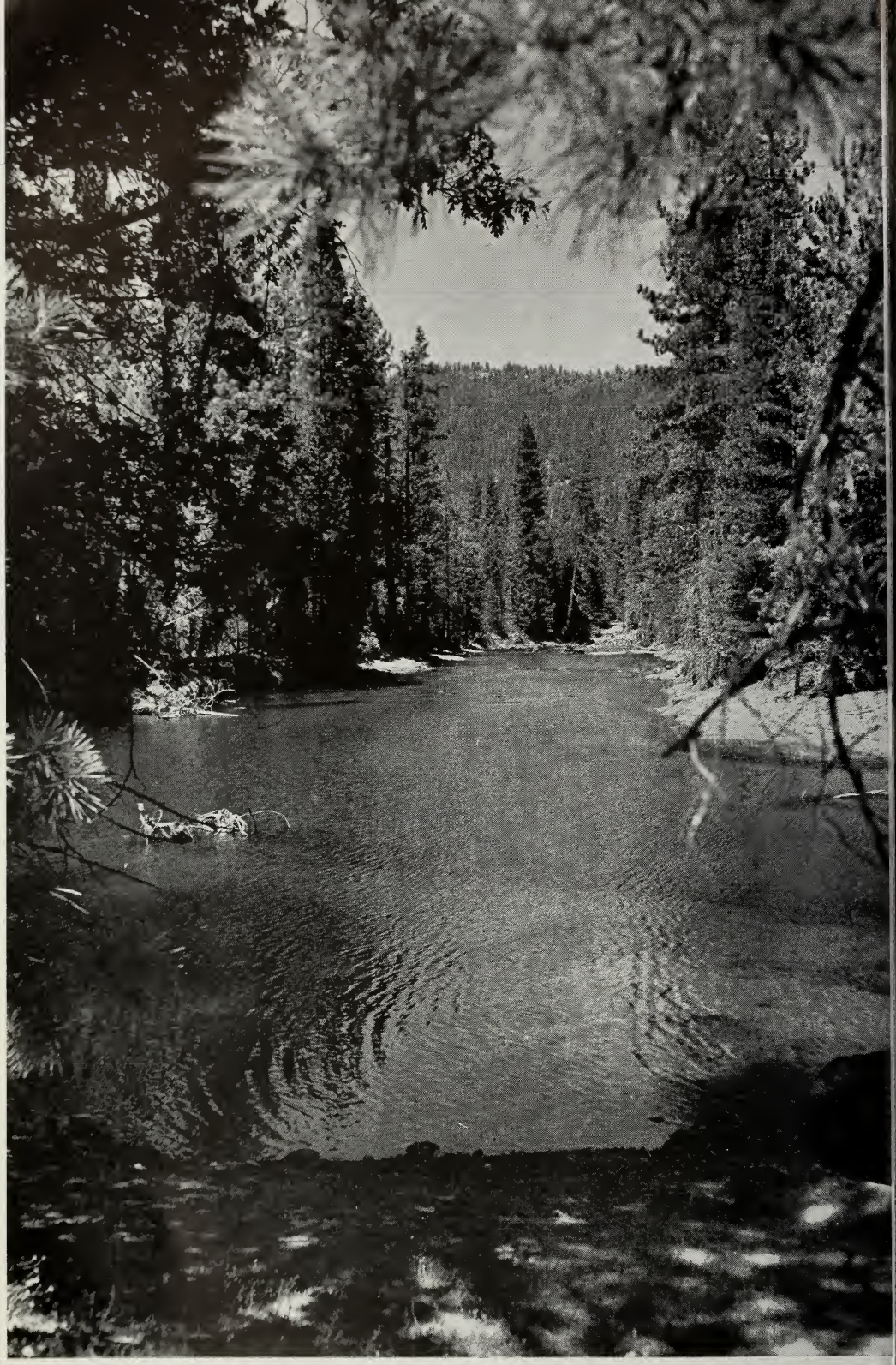
*Retired December 1, 1947. C. A. Lauenstein, Acting Senior Engineer.

†On military leave.

RETIRED 1946-47

During the past fiscal year the following employees were retired from service, and recognition is given on account of their faithful service in the organization:

Michael J. Rogerson, Main Pipe Foreman.....45 years' service
Ingwald E. Flaa, Hydraulic Engineer.....37 years' service
Edward F. Murphy, Reservoir Keeper.....31 years' service
William H. Green, Water Worker.....28¾ years' service
Pete Patrich, Laborer.....17 years' service
William Drautz, Gardener.....11⅓ years' service



CHERRY RIVER

High in the Sierra Mountains, this scenic spot may become part of San Francisco's third mountain water cachement reservoir.

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU

A. O. OLSON
Manager and Chief Engineer

A. O. OLSON
Manager and Chief Engineer

Functions of the Bureau:

The Hetch Hetchy Water Supply Power and Utilities Engineering Bureau is responsible for the administration and engineering, construction and operation of the Hetch Hetchy water supply and electric power system. It furnishes engineering services to the Municipal Railway and San Francisco Airport, planning and supervising construction for both of these utilities, but does not participate in their management and operation.

Organization and Personnel:

The principal members of the bureau staff are as follows:

General Administration and Engineering: headquarters in San Francisco:

A. O. Olson, Manager and Chief Engineer
Leslie W. Stocker, Senior Civil Engineer
Louis M. Perrin, Senior Electrical Engineer
Laurence V. Degnan, Senior Civil Engineer
William W. Helbush, Senior Civil Engineer
Max J. Bartell, Hydraulic Engineer
George D. Burr, Civil Engineer
Wilfred A. Robison, Senior Accountant

Operation and Maintenance of Water and Power System:

Thornton Easler, Electrical Engineer, in charge (office at Moccasin)
Douglas Mirk, Superintendent, Moccasin Power House
James V. Mitchell, Superintendent, Early Intake Power House
Raymond L. Wallace, Assistant Engineer, Moccasin Headquarters
Ernest E. Rawles, Assistant Engineer, Oakdale Headquarters
Martin J. Lyons, Assistant Engineer, Livermore Headquarters

Field Engineering and Supervision of Construction:

Harry E. Lloyd, Construction Engineer, Cherry River Development
Adolph J. Wehner, Construction Engineer, San Francisco Airport

Other engineers, draftsmen, surveyors, accountants, clerks, stenographers, operators, mechanics, laborers, etc., complete the organization. Many are permanent but some are limited tenure employees.

Outline of the Year's Work:

The Hetch Hetchy Water Supply and Power Divisions continued their usual duties of operating the water and power development system. In addition it was found possible to undertake a few minor construction jobs previously held in abeyance by the restrictions on labor and material supply that began early in 1940, when the program of intensive preparation for national defense was initiated. The great postwar demand for civilian goods and construction still hampers this bureau's work, making it difficult to secure materials and equipment when needed; and these circumstances, with the additional handicap of the relatively remote location of the eastern divisions of the system, limit competition in bidding on contract work. Fortunately, there was marked improvement in these respects between the beginning and the end of the fiscal year.

The Municipal Railway engineering section of the Bureau planned and supervised the construction of improvements to the railway system, devoting considerable attention to the planning of major additions to be made if, as is hoped, a bond issue for the purpose is approved by popular vote in November, 1947.

The Airport engineering section operated under high pressure, planning and supervising the Airport extension work financed by the 1945 bond issue of $20,000,000, along with some maintenance and reconstruction items.

A few of the more important items pertaining to the several divisions are mentioned below.

Hetch Hetchy Water Supply and Power:

The full capacity of the San Joaquin pipe line was utilized throughout the year for delivery of water to the San Francisco Water Department.

Contracts for power supply to the Riverbank aluminum reduction plant were terminated.

Substantial deliveries of electrical energy to the Modesto Irrigation District were begun.

Two generating units at Moccasin Power House were completely overhauled and reset. The wheel pits of these units were lined with steel plates, new water wheel housings were installed, and the stator coils of the two generators were replaced with new ones.

At Lake Eleanor, construction of a new cottage to be occupied by the reservoir keeper was begun.

Surveys and preliminary planning for the Cherry Valley development continued.

Municipal Railway:

The Utilities Engineering Bureau planned and supervised numerous Municipal Railway improvement and maintenance jobs, some of which are noted below, with their status June 30, 1947.

1. Reconstruction of inner tracks on Market Street between Fremont and Eddy Streets. Completed.
2. Construction of tracks at Army Street connecting tracks on Potrero Avenue to those on Bayshore Boulevard. Completed.

3. Construction of tracks across Market Street to connect Stockton Street tracks with those on Fourth Street. Contract awarded.
4. Construction of Union Street trolley coach overhead system from Montgomery and Washington Streets to the Presidio. Contract awarded.
5. Construction of central control office, radio station and installation of equipment and facilities for central control of railway operations from Geary Street headquarters. Contract awarded.
6. Construction of a central receiving room and auxiliary rooms at Geary Street headquarters, with a new entrance and facilities for them. Contract awarded.
7. Alterations to storage room at the 24th Street garage. Nearly completed.
8. Installation of ventilating fans in the 24th Street garage roof, to improve working conditions. Completed.
9. Installation of 6 additional bus lifts in the 24th Street garage. In progress.
10. Installation of heating system and water heater in Elkton paint shop. Completed.
11. Repair of roofs at Elkton shops, Turk and Webster garage, and Line Department buildings. Completed.

Airport:

The fill first contracted for under the major extension program was completed, with a total volume of about 6,107,000 cubic yards. A second earthwork contract, requiring 5,000,000 cubic yards, is in progress. A contract for paving runways, taxiways and aprons, and for drainage work, estimated to cost about $1,000,000, will shortly be awarded. These three contracts, and the engineering costs connected with them, absorb about half of the $20,000,000 bond fund.

Airlines previously established as tenants have extended their operations at the airport, and other lines have secured leases, necessitating extension by the City of the airport utility systems (water, power, sewerage, etc.) and drainage system to provide greater capacity and to serve areas not previously covered.

Planning of the proposed new International Airport terminal building was begun.

HETCH HETCHY WATER SUPPLY

Despite the low runoff from the system's watersheds that resulted from below normal precipitation, the Hetch Hetchy Water Supply system met all requirements for both water and power during the fiscal year 1946-47.

Hydrography:

The precipitation and stream flow of the season 1946-47 were far below normal. The Tuolumne River runoff as measured in terms of computed natural flow at La Grange was 1,134,235 acre-feet during this fiscal year, compared with 1,991,668 acre-feet last year. Even with such a low flow during the year, the Hetch Hetchy Reservoir came within 2,300 acre-feet of completely filling. Draft from storage

began at Hetch Hetchy on July 8, 1946, and from Lake Eleanor on June 25, 1946. The water in storage on July 1, 1947 in comparison with 1946 is shown below:

Reservoir	Acre-feet, July 1 1947	1946
Hetch Hetchy	330,828	343,934
Lake Eleanor	25,123	27,113
Priest Forebay	915	403
Total	356,866	371,450

A forecast of the runoff from the system watersheds during the season of low precipitation from April 1 to July 31, is essential to an intelligent planning of a conservation and flood control program. Information for such a forecast is secured by snow surveys directed by the State Department of Public Works, Division of Water Resources, and performed cooperatively by the Hetch Hetchy organization, state, governmental, and other interested agencies. The state publishes the snow data collected in four bulletins, issued once a month from January to April, and includes a forecast of runoff for the period April 1 to July 31 in each of the last two issues. These forecasts give several months' advance warning of an impending runoff deficiency which permits the City and irrigation districts using the Tuolumne River flow appropriately to schedule the use of water in their common interest. The annual forecasts will prove even more valuable at the conclusion of the present continuing joint efforts of the United States War Department, the State, City, and Irrigation Districts toward a more comprehensive flood control system for the coordinated regulation of the Tuolumne River stream flow for purposes of domestic water supply, irrigation and power generation.

The season's final snow survey, made jointly by the City and the State on May 1, 1947, showed no snow whatever on the Beehive Meadows course. This compared with 17.1 inches depth of snow on this same course on April 30 of last year.

It appeared from the final report of the California Cooperative Snow Survey that with careful use and no waste there will be sufficient water to meet the City's needs, even though the runoff will be about 49 per cent below last year.

The following table shows the predicted and actual quantities of runoff from the Tuolumne River watershed for the year 1946, and the predicted amount for 1947:

Point of Measurement	Runoff in Acre-Feet—April 1 to July 31 1946 Predicted	1946 Measured	1947 Predicted
Hetch Hetchy	620,000	604,743	420,000
La Grange	1,225,000	1,157,078	770,000

The following tables show the measured precipitation and the natural stream flow of the Tuolumne River, Eleanor Creek, and Cherry River by months during the fiscal year:

PRECIPITATION, INCHES

Month	Hetch Hetchy 1946-47 Season	Hetch Hetchy 1910-47 Average	Lake Eleanor 1946-47 Season	Lake Eleanor 1910-47 Average	Moccasin 1946-47 Season	Moccasin 1925-47 Average
July	0.03	0.16	0.08	0.10	0.10	0.01
August	0.00	0.11	0.00	0.19	0.00	0.01
September	0.36	0.64	1.21	0.64	0.02	0.16
October	2.53	2.09	2.75	2.17	1.00	1.52
November	8.05	3.09	10.35	3.81	4.76	2.52
December	4.59	5.01	5.44	6.55	4.87	4.34
January	1.44	5.78	2.35	7.84	0.72	4.52
February	2.48	5.95	3.79	8.06	1.80	5.52
March	4.31	4.99	5.69	6.01	3.41	4.23
April	1.33	3.04	1.51	3.48	1.23	2.36
May	1.90	1.84	1.67	1.85	0.53	0.74
June	0.52	0.76	0.59	0.76	0.27	0.25
Total	27.54	33.46	35.43	41.46	18.71	26.18

NATURAL FLOW OF TUOLUMNE RIVER, ELEANOR CREEK AND CHERRY RIVER IN ACRE-FEET

Fiscal Year 1946-1947

Month	Tuolumne River at Hetch Hetchy	Eleanor Creek at Lake Eleanor	Cherry River in Cherry Valley	Tuolumne River at La Grange
July	37,481	2,501	5,240	52,539
August	8,925	693	347	7,927
September	4,452	315	442	3,364
October	8,914	605	3,134	16,070
November	18,553	9,064	10,534	64,001
December	22,770	9,594	11,375	76,715
January	14,441	3,713	5,266	41,875
February	20,727	8,926	10,437	80,221
March	41,246	16,858	20,077	136,057
April	84,131	20,979	35,643	192,224
May	224,364	24,280	65,377	352,497
June	79,202	7,260	17,343	110,745
Total	565,206	104,788	185,215	1,134,235

Diversion by San Francisco:

There were 22,594,400,000 gallons of water diverted by the City from the Tuolumne River watershed during the fiscal year 1946-47, making a grand total of 148,418,900,000 gallons diverted since the Hetch Hetchy Aqueduct began operation. The diversion by months is shown by the following table:

WATER DIVERTED BY THE CITY FROM TUOLUMNE RIVER WATERSHED

Fiscal Year 1946-1947

1946	Million Gallons	1947	Million Gallons
July	1,925.2	January	1,924.4
August	1,898.8	February	1,732.3
September	1,883.5	March	1,926.3
October	1,932.7	April	1,860.9
November	1,848.4	May	1,924.1
December	1,877.0	June	1,860.8

Total, fiscal year 1946-47	22,594.4
Diverted prior to July, 1946	125,824.5
Total diversion since beginning of operation of Hetch Hetchy Aqueduct	148,418.9

Delivery to San Francisco:

The quantity of Hetch Hetchy water brought to the San Francisco Water Department's system during the fiscal year was 22,594,400,000 gallons, making a total of 147,517,300,000 gallons since October 18, 1934, the date on which the water began to flow through the Hetch Hetchy Aqueduct to San Francisco. The average rate of delivery during the year was 61,900,000 gallons per day; this is greater than the rate for any previous fiscal year.

HETCH HETCHY AQUEDUCT SAN JOAQUIN PIPE LINE

Water Delivered to San Francisco Water Department

	Total Flow M.G.	Avg. Daily M.G.D.
Monthly—Season 1946-47:		
July, 1946	1,925.2	62.1
August	1,898.8	61.3
September	1,883.5	62.8
October	1,932.7	62.3
November	1,848.4	61.6
December	1,877.0	60.6
January, 1947	1,924.4	62.1
February	1,732.3	61.9
March	1,926.3	62.1
April	1,860.9	62.0
May	1,924.1	62.1
June	1,860.8	62.0
Total	22,594.4	61.9

Seasons Since Beginning of Pipe Line Operation:	Total Flow M.G.	Avg. Daily M.G.D.
1934-5	12,380.2	48.5
1935-6	13,149.8	35.9
1936-7	10,388.9	28.3
1937-8	1,358.5	3.7
1938-9	7,512.2	20.6
1939-40	14,883.3	40.7
1940-1	7,515.7	20.6
1941-2	5,744.6	15.7
1942-3	6,276.1	17.2
1943-4	9,386.2	25.6
1944-5	17,761.1	48.7
1945-6	18,616.3	51.0
1946-7	22,594.4	61.9
	147,517.3	31.8

The stored water available to the San Francisco Water Department at the end of the 1946-47 fiscal year was 4.06 times its system requirements during the year. The quantity in storage at various points was:

Reservoirs	Storage Billion Gallons
Hetch Hetchy and Lake Eleanor	114.6
Calaveras, Peninsular and City Reservoirs	36.6
Total	151.2

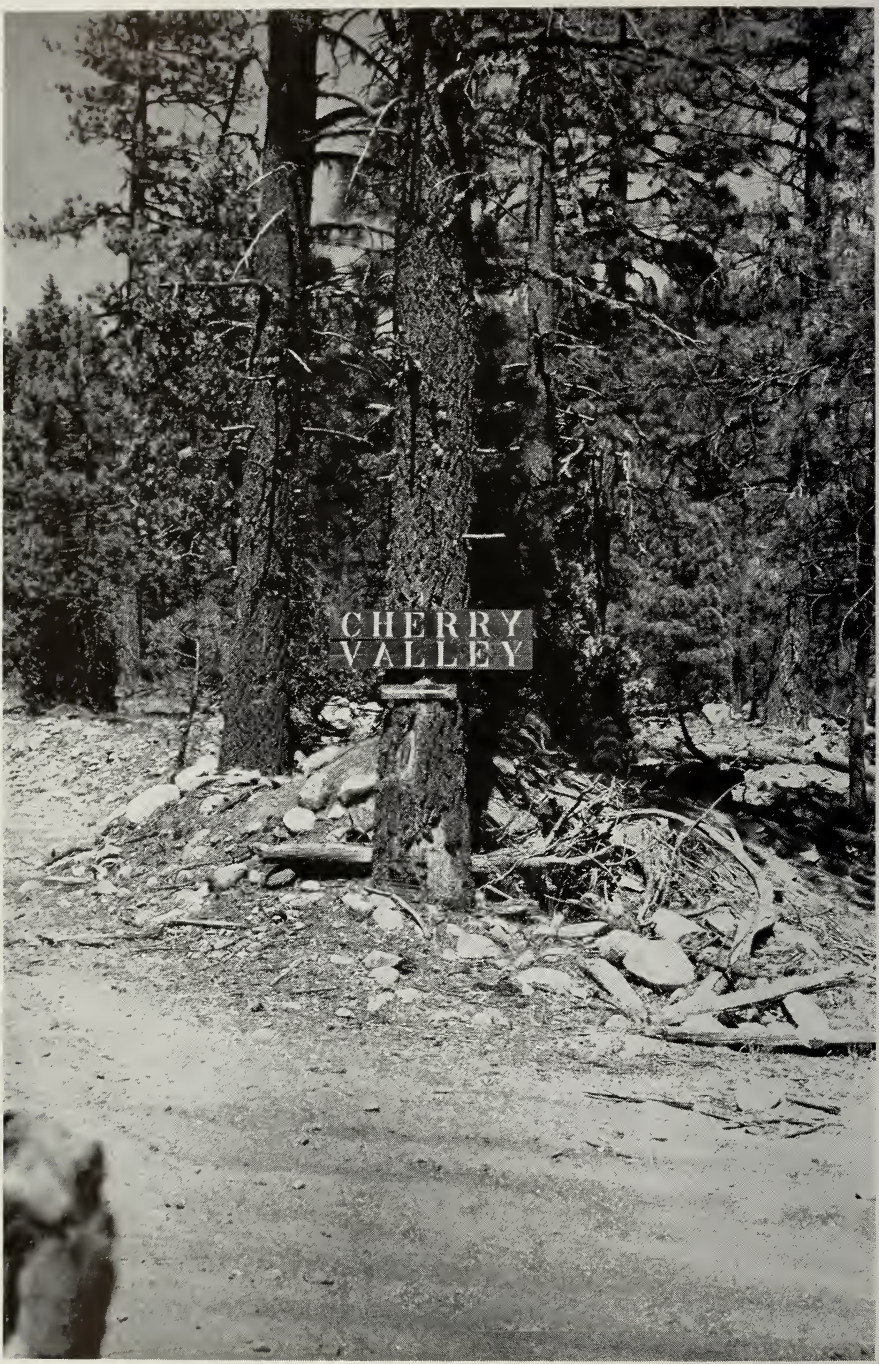
Cherry River Development:

The development of the water and power resources of the Cherry River is an integral part of the Hetch Hetchy System. The original rights on the River were acquired by the City in 1908, and provisions for the development of these rights within the Stanislaus National Forest were incorporated in the Raker Act of 1913.

In 1940, the Public Utilities Commission authorized that preliminary and exploratory work be started on the project, and the Board of Supervisors has made appropriations of $25,000 each year since then for carrying on the work.

The general engineering features of this project have been described in previous reports. Field surveys during the past season consisted of the location of an access road from the present Jawbone Road to the location of the proposed power house. This will be a low level road, at no time above elevation 2,600, and will follow closely the west bank of the Tuolumne River from the vicinity of Lundsen Bridge to the confluence of the Cherry and Tuolumne Rivers and thence directly to the power house location. Access to the Cherry Valley Dam and Aqueduct will be accomplished by improving the present Jawbone Road and certain sections of the lumbering roads now in use.

The survey of the area within which the penstocks will be located was also expanded to provide for possible alternate locations of this structure, which will drop the water 2,000 feet from the aqueduct terminal to the water wheels of the power house.



PROPOSED RESERVOIR SITE

San Francisco can add to its water supply, increase power production and exercise flood control by building Cherry Dam which would back Cherry River into this valley.

The construction of the Cherry Valley Dam will require the removal of the stream gauging station from its present location within the reservoir area. A new location has been selected downstream of the proposed dam. Advantage was taken of the present low stream flow to prepare the gauging pool section and to install the stillwell pipes. The house itself will be constructed at a later date.

Cooperation with the Division of Water Resources of the State of California resulted in the erection and equipping, at State expense, of three additional snow survey cabins in the upper Cherry watershed. These shelters, together with two previously erected, will be used by City forces during the winter in collecting data for predicting the flow of water into City reservoirs during the coming season.

Negotiations between the Corps of Engineers of the U.S. Army, the Modesto and Turlock Irrigation Districts, and the City were continued. A re-evaluation of the flood control benefits derived from the City and District reservoirs, including the proposed Cherry Reservoir, is being carried on. Under the Flood Control Act of 1944, the Federal Government has offered to pay $5,800,000 for operating these reservoirs for flood control purposes, in addition to their primary function as conservation reservoirs.

Relations with Irrigation Districts:

The long standing policy of cooperation between the City and the Turlock and Modesto Irrigation Districts in the conservation of the Tuolumne River waters was satisfactorily continued and all collaborated with Army Engineers in planning for this river's flood control which is so essential to the efficient use of its waters. An agreement has now been reached upon a Master Plan of development and it is expected that a Federal contribution toward the construction of the Cherry River Dam will soon be available.

Relations with United States Department of Interior:

The usual $30,000 annual payment was made to the United States in compliance with the Raker Act, making a total of $620,000 paid to date.

Utilities Engineering Bureau staff members kept in touch with Yosemite National Park officials concerning matters of mutual interest.

Water Litigation:

Suit was filed during March, 1947, by Eleanor Hughes Shields, executrix of the estate of Thomas M. Hughes, against the City and County of San Francisco, seeking judgment in the amount of $125,000 for alleged damage to springs on ranch property in the vicinity of Moccasin by reason of the construction of the Foothill Tunnels. A complete record of the flow of water from these springs has been kept by the Department since before tunnel construction. At the request of the City the proceedings were moved from Tuolumne to Stanislaus County. No date has been set for the trial.

The claim of William Frates against the City and County of San Francisco for damages due to the failure of springs on his ranch property in Alameda County, by reason of the construction of the Coast Range Tunnel, was settled for the sum of $10,000. The City acknowledged responsibility for the failure of the springs. The settlement of this case relieved the City of the obligation of hauling water to this property from Livermore by tank truck which has been a source of expense for many years.

An agreement was also made to settle the claim of P. J. Connolly that the water supply on his extensive holdings was damaged by reason of the construction of the Coast Range Tunnels in the vicinity of Thomas Shaft. In past years the City developed a new well on this property. The installation of pipe lines, pump and a 20,000 gallon concrete tank at a cost of $4,000 is the basis upon which the case will be terminated.

Generator Reconstruction:

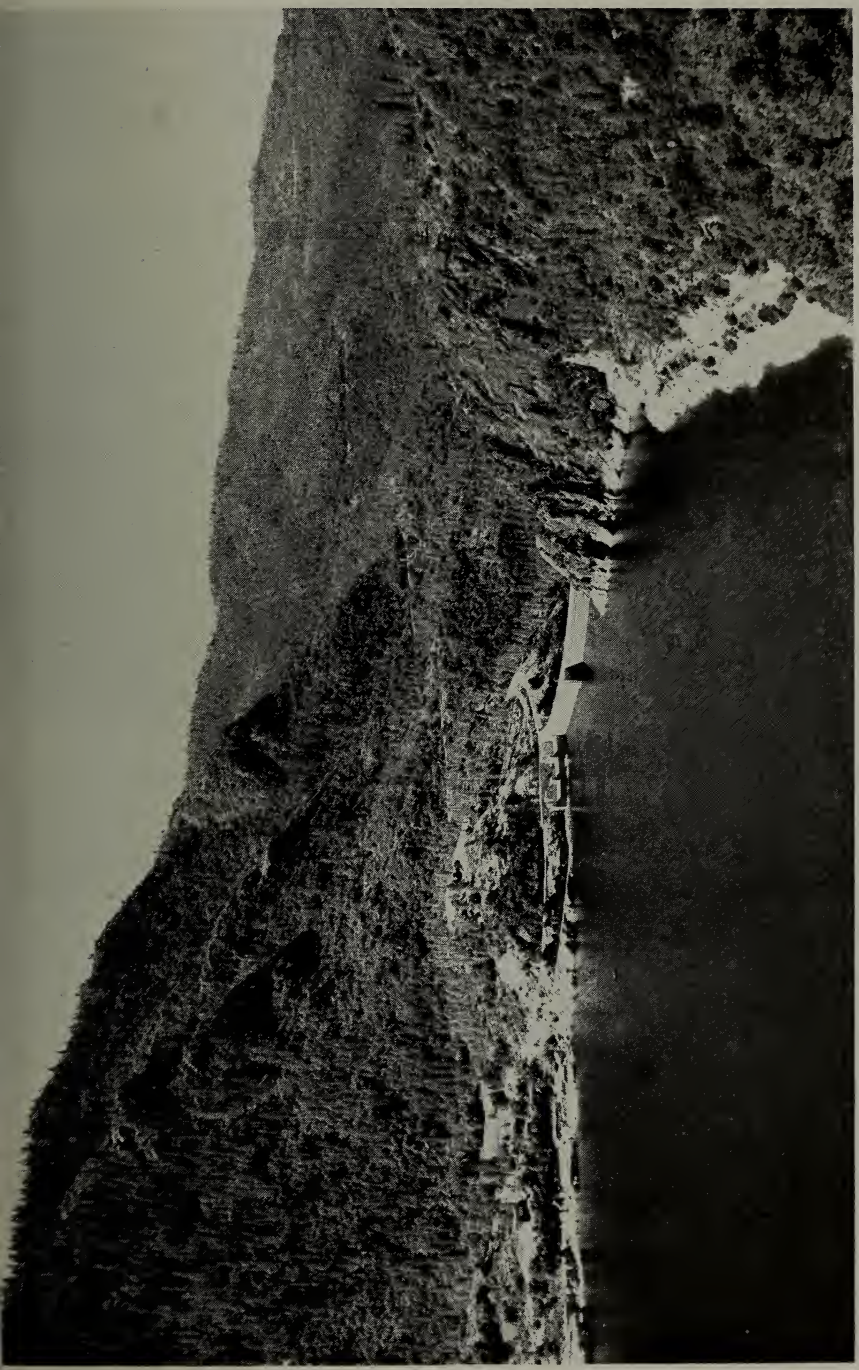
As mentioned in the annual report for the fiscal year 1945-46, the concrete foundations of the four main generating units in the Moccasin Power House have long been under observation because of cracks which appeared shortly after the completion of the plant in 1925 and which became progressively larger as time passed.

In 1943, it became evident that the relation of the rotating to the stationary parts of the generating units was being affected to such a degree that a major job of re-aligning the units would be necessary before long. An intensive survey of the concrete foundations was begun at that time to determine the relation of the cracking of the concrete foundations to the mis-alignment of the units and to assist in the formulation of plans for the repair of the foundations. A great number of measurements was made to determine, as accurately as possible, the extent of the total movement of the concrete masses and the rate of movement. It was shortly learned that the mis-alignment of the generating units resulted from an increase in the bulk of the concrete base, which increase was not uniform due to the effect of reinforcing steel, change in cross section and other causes.

Abbot A. Hanks, Inc., was engaged late in 1945 to make laboratory and field tests of the concrete and its constituents and in January, 1946, submitted a report in which they summarize their conclusions as follows:

> "Our findings indicate that the failure of the concrete in the foundations is due to volume change or swell of the concrete from reactivity of the aggregates in the form of Phyllite which is facilitated by the presence of moisture through the mass and that this reaction can be expected to continue with progressive development of swell, distortion and cracking of the concrete.
>
> "In addition to the concrete being quite pervious so that moisture may easily enter the mass to facilitate reactivity, it is installed on a porous rock foundation that is saturated with water to the surface of contact with the concrete and has moisture available from the operation of the water wheel units.
>
> "If these sources of moisture did not exist, it is questionable if the observed difficulty would have developed in the concrete. This is indicated first by the fact that deterioration by volume change can be observed in other parts of the Power House where moisture is available in quantity and the fact that there is no apparent deterioration by volume change in the concrete under drier conditions toward the upstream sides of the power house or at the site provided for several future foundation units."

A complete reconditioning of the foundations would have required the removal of all concrete in the power house in locations where the swell described above could be expected to continue because of the presence of moisture, and replacement of that concrete with new concrete in which only stable aggregates were used. The power house structure is supported to a large extent by the foundations of the generating units and the work of replacing those foundations involved not only the removal of the units but also the support of the building while the work was in progress. The cost of that work would be prohibitive and added to that



HETCH HETCHY RESERVOIR
O'Shaughnessy Dam backs up a maximum of 117 billion gallons of water in this High Sierra valley.

cost would be the loss of revenue which would result from the long shut down that would be necessary.

An exploratory excavation in the foundations disclosed that the cracks did not extend far below the surface of the concrete and that the steel reinforcement of the concrete showed no signs of distress which could be detected by visual examination.

The laboratory of the Abbot A. Hanks, Inc., was again engaged to remove from the foundations by diamond drilling, 6-inch diameter cores and to determine the physical properties of the concrete in the cores removed. Seven cores were removed at representative points in the foundations. The laboratory reported that the compressive strength of the samples ranged from 2,046 lbs. per sq. in., min. to 3,031 lbs. per sq. in. max. Other properties of the concrete indicated its deterioration but nevertheless the concrete is adequate safely to carry the loads to which it is subjected.

In view of the excessive cost of the complete replacement of the affected concrete coupled with the extended outage of generating facilities at a time when the power available in Central California was barely sufficient to satisfy the demand, it was decided to limit the work in the power house to realigning the generating units and lining the wasteways from the water wheels to prevent, so far as possible, the contact of the concrete by water and by that means stop or retard the swelling action of the concrete.

Inasmuch as the program of work required at least a partial reconstruction of the steel plate housings, with a shutdown in effect anyway, the opportunity was grasped to replace the entire housings with new ones conforming more nearly with present day practice.

Erosion of the water wheel buckets resulting from impact of the high velocity water issuing from the jets and from imperfections in the surfaces of the buckets has made necessary much recurring repair work in the past. To avoid this as much as possible, the Pelton Water Wheel Co., builders of the wheels, recommended the reshaping of the buckets by grinding. This, too, was done in the period of shut down.

Work on Unit No. 4 was started on January 2, 1947, with the remaining three units in the plant in operation. That work was completed on March 24, 1947. That unit was immediately restored to service and work was begun on Unit No. 3 which unit came back on the line May 24, 1947. Load demand made further work inadvisable at that time and work on the remaining two units was postponed until such time as load conditions permit the outage of one unit at a time without serious loss of revenue.

Insufficient time has elapsed to ascertain the degree of effectiveness of the measures taken but as long as any deteriorated concrete is in place, the installation is inferior to the designed standard of construction. Accordingly, the Department has recommended that a portion of the cost of replacement of the foundations as a whole and of the generating equipment be set aside annually for the next ten years so that sufficient money will be on hand for the reconstruction work at the proper time.

Nozzle Needle Tips Replaced:

The main nozzles of all turbines when closed have been leaking badly due to erosion of the needles and their seat rings. To remedy this condition as well as to improve unsatisfactory speed regulation of the turbines at light load, an experiment was carried on using two stainless steel needle tips and stainless steel seat rings.

The major difference between the trial tips and the seat rings and those replaced is that the included angle between the seating faces of the former is 60 degrees as compared to 90 degrees in the latter.

The trial tips and seat rings, installed in Unit No. 2, were found to be satisfactory and the Pelton Water Wheel Co. was instructed to proceed with the manufacture of sets for the other three units.

Had the trial been unsatisfactory, the Pelton company would have borne the costs of the experimental tips and seat rings.

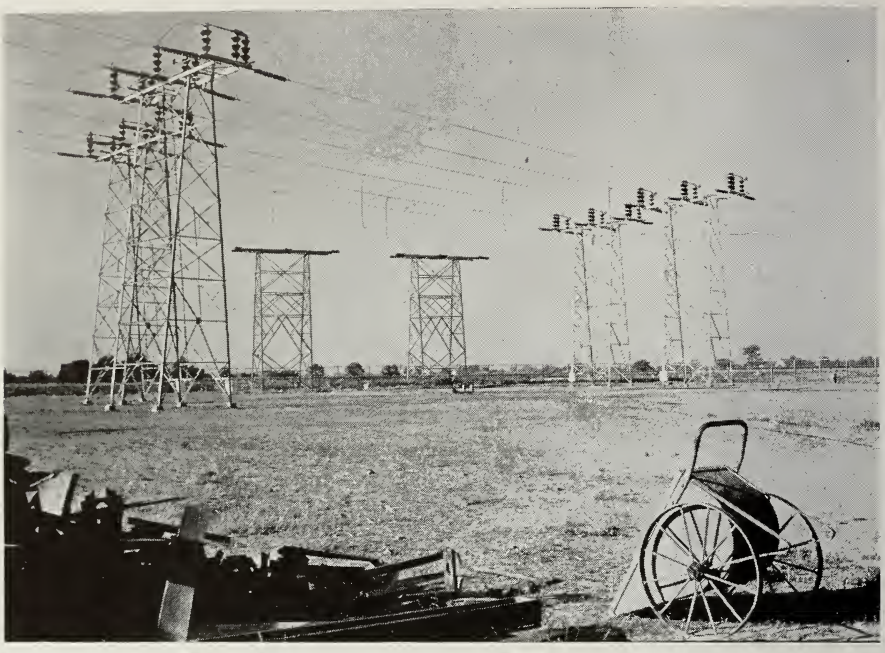
HETCH HETCHY POWER OPERATION

Power Disposal:

Disposition of power in conformity with the Raker Act continued satisfactorily during the year under contracts reviewed in the 1945-46 Annual Report. The principal changes were the discontinuance of service to the Riverbank aluminum plant and the commencement of delivery to the Modesto Irrigation District. In spite of all efforts, receipt of equipment for receiving Substation J of the Modesto District was greatly delayed. After the 69-kv transmission lines out of this station were placed in operation, the load of this customer reached satisfactory proportions.

The Riverbank aluminum plant had been inactive since August, 1944, and the property was later transferred to the War Assets Administration. During this period, a small amount of power was delivered to the plant for miscellaneous purposes. In order to save the cost of operating the high voltage receiving substation, the War Assets Administration elected to discontinue the Hetch Hetchy service and obtain power for current needs from another low voltage source. Accordingly, the Hetch Hetchy service was terminated on February 15, 1947, and the connections removed. This action automatically terminated the contract entered into in 1942 between the Public Utilities Commission and the Pacific Gas & Electric Co. for purchase of supplementary energy from the latter to aid in serving the plant.

Power sales increased during the year so that the output of the Hetch Hetchy generating stations returned to normal, supplemented at times by purchased energy. Total sales for the year 1946-47 were $3,319,004.76, compared to $3,058,669.80 for 1945-46. The net income after all deductions, was $774,071.31 and $640,324.49 respectively, an increase of $133,746.87 over last fiscal year. Complete financial statements covering power operations appear in a later portion of this report. Operating statistics for the year are shown in the following table:



HIGH VOLTAGE HANDSHAKE
Modesto and Turlock Irrigation districts, which purchase Hetch Hetchy power, connect with the Hetchy lines at the point pictured above.

POWER OPERATING STATISTICS

Fiscal Year 1946-1947

	Name Plate Capacity—KVA	Maximum Load—KW	Annual Load Factor—%
Plant Data:			
Moccasin Power House	80,000	82,000	69.6
Early Intake Power House	3,795	3,900	88.4
Combined	83,795	85,800*	70.6

Energy Generated and Purchased (KWH):		
Gross Generation:		
Moccasin Power House	508,679,000	
Intake Power House	26,867,400	535,546,400
Station Service:		
Moccasin Power House	777,660	
Intake Power House	68,500	846,160
Net Generation:		534,700,240
Purchased from P. G. & E. Co.		13,609,242
Total available		548,309,482

Energy Distributed (KWH):	
Project Use	1,794,225
Sales	
Municipal Accounts	192,645,431
Modesto Irrigation District	53,226,564
Permanente Cement Co.	104,597,250
Permanente Metals Corp.	90,936,000
Pacific Gas & Electric Co.	34,359,670
†Riverbank Aluminum Plant	1,907,600
Miscellaneous Customers	391,273
Losses and Unaccounted For:	
Hetch Hetchy System	30,279,578
P. G. & E. System (For Municipal Accounts)	38,171,691
Total Available	548,309,482

*Coincidental demand.
†Electric Service to War Assets Administration discontinued February 15, 1947.

To minimize purchase of supplementary power and energy, the City's power plants must be operated in accordance with daily and hourly schedules to meet as far as possible the power requirements for municipal purposes and the City's customers, including transmission and distribution losses. Accordingly, monthly load programs are prepared showing the expected hourly load to be carried by the plants. In programming this operation, it is necessary to consider water conditions, seasonal characteristics of the various classes of service, trends in load changes, information on customers' requirements, records of past operation, and maintenance schedules. From data accumulated during the previous fiscal year, the first under the present method of power disposal, it has been possible this year to predict very closely the hourly load requirements of the system.

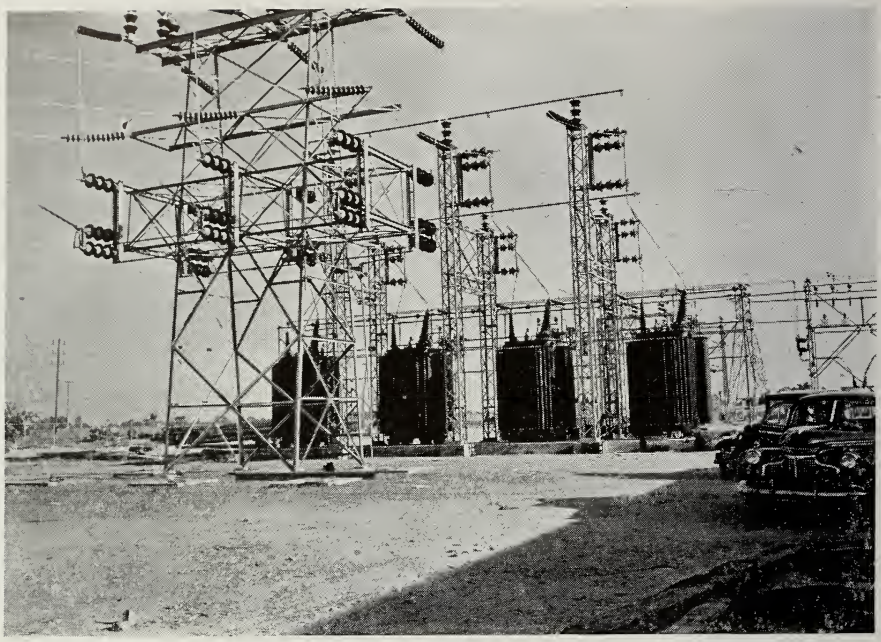
A number of inquiries was received concerning the purchase of large blocks of industrial power, mostly for proposed electro-chemical plants. These could not be accommodated from the present generating facilities. This situation, and the increasing cost of fuel power, make the early development of the Cherry River Project highly desirable.

Modesto Station "J":

Delivery of Hetch Hetchy power to the Modesto Irrigation District commenced on May 11, 1946, through Substation J, located approximately 4 miles north of the City of Modesto and constructed jointly by the Public Utilities Commission and the District. Because of delays in the delivery of equipment, temporary facilities were installed which included a tap circuit from Hetch Hetchy Line No. 4, carried on wooden poles to the temporary location of the transformer bank.

Initially, the load served consisted of two 12-kv feeders supplying rural substations. On October 6, 1946, a 69-kv circuit to Station A in the City of Modesto was placed in service with an appreciable increase in load. The maximum demand during the fiscal year was 16,944 kilowatts which occurred in December, 1946.

During the spring of 1947, the temporary tap circuit was replaced with permanent tap circuits on steel towers, connecting to both Hetch Hetchy transmis-



MODESTO SUBSTATION
This unit converts Hetch Hetchy power into voltages useable by the Modesto and Turlock Irrigation districts.

sion lines. Peterson Engineering Company, under H.H.W.S. Contract No. 199, installed a metering transformer tower and four section switch towers, together with disconnecting switches of the high pressure contact type, made by Pacific Electric Manufacturing Company. The section switches, inserted in the transmission lines on each side of the tap connections, are motor operated and will be controlled by supervisory control over a wire circuit from Station A, the Modesto district's main substation. Permanent connections to line No. 3 were completed on April 20, and to line No. 4 on May 1, 1947.

Ultimately Station J will be unattended; its operation governed by supervisory control from Station A. Pending installation of supervisory and telemetering equipment and impedance relays, the station will continue to be manually operated, and will be carried on only one of the Hetch Hetchy lines at a time.

The system of the Turlock Irrigation District is interconnected with the systems of the Modesto Irrigation District and the Pacific Gas and Electric Company, both of which are connected to the Hetch Hetchy lines. In order to control the power flow at Station J without special regulating equipment, use is made of the double bus at Station A and at the Districts' Don Pedro Power House, to isolate that portion of the Modesto system supplied jointly by Station J and Don Pedro.

Power and energy delivered to the District will be metered at 115 kv by means of high voltage metering transformers to be installed by the City. Pending delivery of this equipment, secondary metering at Stations A and J is being used for billing purposes with adjustment for intermediate losses.

GOING UP!
A new power line tower for use in tying in Modesto and Turlock Irrigation districts with Hetch Hetchy power lines.

Moccasin Power House:

Concurrently with the reconstruction work on the foundations of Units No. 3 and No. 4, the generator stator coils of these units were replaced with new coils having Class B insulation and a greater copper cross-section than the previous Class A coils. This work was done under contract by the General Electric Company from whom the new coils were purchased. Upon removal of the old coils, in place since 1926, examination revealed that the outer layers of varnished cambric insulation and in some places the inner mica portion were greatly deteriorated by corona action, particularly adjacent to the air ducts. The new coils have a conducting coating on the slot portion to reduce this deteriorating action.

Each generator stator contains 216 coils. Prior to installation, each coil was heated to a temperature of 90 degrees C. by placing in a wooden cabinet and passing 850 amperes, direct current, through the coil for approximately 1¾ hours. Heating the coils softened the insulation, reducing, thereby, the possibility of damage while placing in the slots. The spare motor-driven exciter, separately excited from a portable arc welding set, was used to heat the coils before installation and to dry out the completed winding before placing the unit back in service. To obtain convenient control of the current, a water rheostat, consisting of two iron rods clamped between two planks and suspended in the tail-race, was connected in series with the armature of the exciter.

The stator coils were subjected to a 1-minute, 60-cycle, high potential test of 35 kv at the factory, 30.5 kv after placing in the slots, 27 kv after connections were made, and finally, the completed winding was given the A.I.E.E. standard

test of 23 kv after the heat run. The first three tests were conducted at room temperature while the latter was conducted at a winding temperature of 75 degrees C.

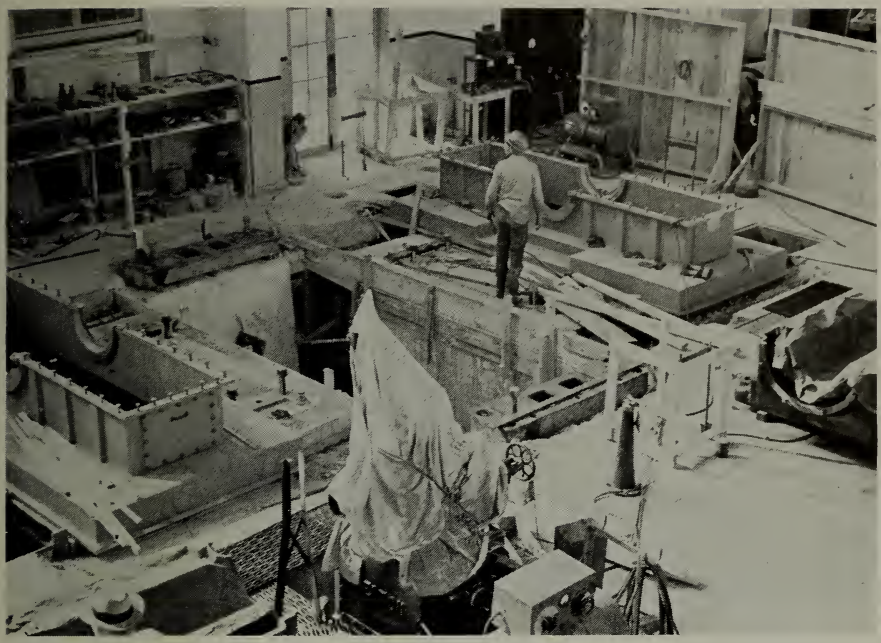
Prior to rewinding the stator of Unit No. 4, approximately three inches of laminations were removed from one side of the lower half of the stator in order to replace those damaged when the winding failed in 1943. During this operation, rust was observed between laminations in approximately the lower third of this half of the stator. Apparently little loss in the volume of iron had resulted but the insulating film on the surface of the laminations had deteriorated in spots. No evidence was noted of any heating effect that may have been caused by reduced eddy current resistance. After careful examination of the parts affected, it was concluded that the rust action was not serious enough to justify reconditioning the laminations, particularly in view of the additional cost and the delay in getting the unit back in service. The laminations removed, however, were replaced by new laminations from a stock of spares purchased with the generators. It is believed that the section of the stator in which rust action had occurred was that portion below the high water line during the flooding of the power house in 1925. This was substantiated by evidence of dirt found in the air-ducts in the same part of the stator.

During the reconstruction of Unit No. 3, one of the generator field coils was shipped to the General Electric service shop in San Francisco for examination. The coil was found to be in reasonably good condition. Although the turn insulation and ground insulation were dried out and brittle, it was not considered serious enough to be replaced. This and the other field coils on the generators have class A insulation and are the original coils furnished with the generators in 1925. Undoubtedly, as the units grow older it will be necessary to recondition the coils at which time they can be re-insulated with class B insulation to conform with the new stator coils.

The manufacturer of the generators had made studies of methods to increase their ventilation so that the output could be increased without exceeding the safe operating temperature. These studies lead to a recommendation that the existing sirocco type fans on the generator rotors be replaced. Consequently, in July, 1946, as a trial installation, a set of scoop fans with necessary air deflector modification parts and new intake hoods designed by General Electric Company were installed on Generator No. 4. This did not produce any improvement in the ventilation. Upon further recommendation of the manufacturer, the original sirocco fans were re-installed on the rotor and a modified design of air deflector cones, furnished by General Electric Company without cost to the City, were installed at the completion of the rewinding operation. As this also did not result in any noticeable improvement in the ventilation, it was decided not to attempt any further changes in the air system. With the increased copper section of the new stator coils, the overhauled generators run much cooler so that the present ventilation is adequate. Furthermore, the evaporative type air coolers that were installed a few years ago are quite effective as air cleaners, which aid in maintaining low operating temperatures.

During the year, the machine shop load was transferred from the Moccasin-Intake 22 kv line to a Moccasin 11 kv feeder. This change reduced transformation losses and improved the voltage regulation.

During the preceding fiscal year, line impedance relays and power line carrier communication and telemetering equipment were ordered for installation at Moccasin in connection with the supply of power to Station J. This equipment has not yet been received but plans are under way for its installation.



GENERATOR PITS
The Generator Assembly removed, the pits in which the water wheels and generator turn are being repaired.

General:

The Hetch Hetchy Bureau of Water Supply, Power and Engineering continued during the year to supply all of the engineering work required for the maintenance, rehabilitation, modernization and expansion of the Municipal Railway and the San Francisco Airport. These duties, in addition to the engineering for Hetch Hetchy water supply and power operations, have long been assigned to the bureau by the Public Utilities Commission.

MUNICIPAL RAILWAY ENGINEERING

Some 20 contracts for new projects were awarded during the year. The bureau prepared plans and specifications and furnished supervision for these and 12 other projects continued from last year. Engineering work was also done on other projects which did not reach the construction stage.

In addition to its construction activities, this department handled numerous engineering matters of an operating nature, such as taxes, valuations, retirements, legal exhibits, agreements with other utilities, revocable permits, accounting data, statistics, accident exhibits, etc.

Track Reconstruction:

The condition of the streets and the street car service on Market Street was much improved by the reconstruction of the inner tracks on Market Street be-

tween Fremont and Eddy Streets. The old track was in such poor condition that cars swayed, were generally rough riding, and motor housings scraped the pavement in some places. Maintenance expenses were reduced, safe speeds were increased and smoother riding was produced by this reconstruction. (See Contract No. 253.) The next project on Market Street will be the reconstruction of the inner tracks from Eddy Street to Valencia Street, completing the Market Street reconstruction program, and will be undertaken when funds for it are available.

The Municipal Railway division tracks on Potrero Avenue terminated at the northerly side of Army Street and the Market Street division tracks turned southerly off of Army Street on to Bayshore Boulevard with no connection between them. A contract was awarded to connect the Potrero Street track to the Bayshore track in order to furnish through service on the "H" Line to Wilde Avenue. At the same time the Army Street connection to the Bayshore tracks was removed. This work was completed January 2, 1947. (See Contract No. 222.)

The reconstruction of tracks on Church Street between 24th and 27th Streets and from Market to 17th Street, which was commenced last year under a Board of Public Works contract, was completed during this year. (See Contracts 242 and 248.)

Plans and specifications for the reconstruction of the tracks on Geary Street between Masonic and Broderick were completed. These were made a part of the Board of Public Works specifications covering the improvement of Geary Boulevard which was advertised for bids near the end of the year. This improvement was needed because of a new real estate development in the abandoned Calvary cemetery.

A contract for the connection of the Stockton Street tracks with those on Fourth Street, to which the City committed itself prior to the acquisition of the Market Street Railway Company properties, was awarded on May 26, 1947. When this connection is completed it will provide a convenient through service for the patrons of the "F" line from the 3rd and Townsend railway station to its northern terminus at Chestnut and Scott Streets. (See Contract No. 270.)

Garage Improvements:

Plans and specifications were prepared and a contract awarded for the installation of 6 new hydraulic lifts in the 24th Street garage which were requisitioned last year. This contract also covered some new paving in the garage which is a necessary auxiliary to the bus lifts. (See Contract No. 278.)

The installation of ventilating fans in the 24th Street garage, which was started last year, was completed and the improvement in conditions equaled that which was anticipated. Complaints of foul air have ceased. (See Contract No. 237.)

The garage stores facilities and offices in the 24th Street garage had become quite inadequate efficiently to meet expanded operations. Plans and specifications started last year were completed and a contract was let for new and larger quarters. These consist of a first floor, mezzanine and attic space for stores and office rooms with a total floor area of more than 6,000 sq. ft. They were constructed in the same general location in the center bay as the old store room and walls were carried up to the roof, making a complete enclosure. Offices were provided on the mezzanine for the garage superintendent, the garage storekeeper, and office forces of each. There are storage rooms on all floors and materials are raised from the first floor to the mezzanine by hoists and carried by overhead monorail to designated locations. A ten unit gas furnace with suitable distribution fans supplies

thermostatically controlled heat to all rooms when needed and summer ventilation is obtained by reversing the fans. Ample lighting is furnished throughout by fluorescent light fixtures. An extension and enlargement of an existing mezzanine floor in the west bay of the garage to provide locker and wash rooms for workmen was made under the same contract. Unit heaters for the machine shop were also installed under this contract. During the work of construction it was necessary to provide a temporary stores space in the east bay of the garage which was enclosed with wire mesh walls. At the conclusion of the job it was found desirable to retain a portion of this space for permanent use; the enclosure was altered for this purpose.

Test borings were made under contract to determine the character of the subsurface soil at proposed garage location at Kirkland Yard at the corner of North Point and Powell Streets. (See Contract No. 282.) The engineering work of designing the structures for this project has been discontinued for the time being because of lack of funds for its construction.

The Turk and Webster garage roof, being in a very bad condition, was repaired under Contract No. 276.

Elkton Shop Improvements:

The Elkton Shop building roof had deteriorated to such an extent that leakage through it during heavy rains forced the discontinuance of repair work on badly needed street cars. Plans and specifications were therefore prepared and a contract let for the repair of this roof. (See Contract No. 275.) It was also found necessary to repair the roof drains and this was done under Contract No. 281.

The construction of the new heating system for the Elkton Paint Shop, which was begun last year under Contract No. 246, was completed and Contract No. 256 was let for the installation of a hot water heater in this shop for the benefit of the workmen.

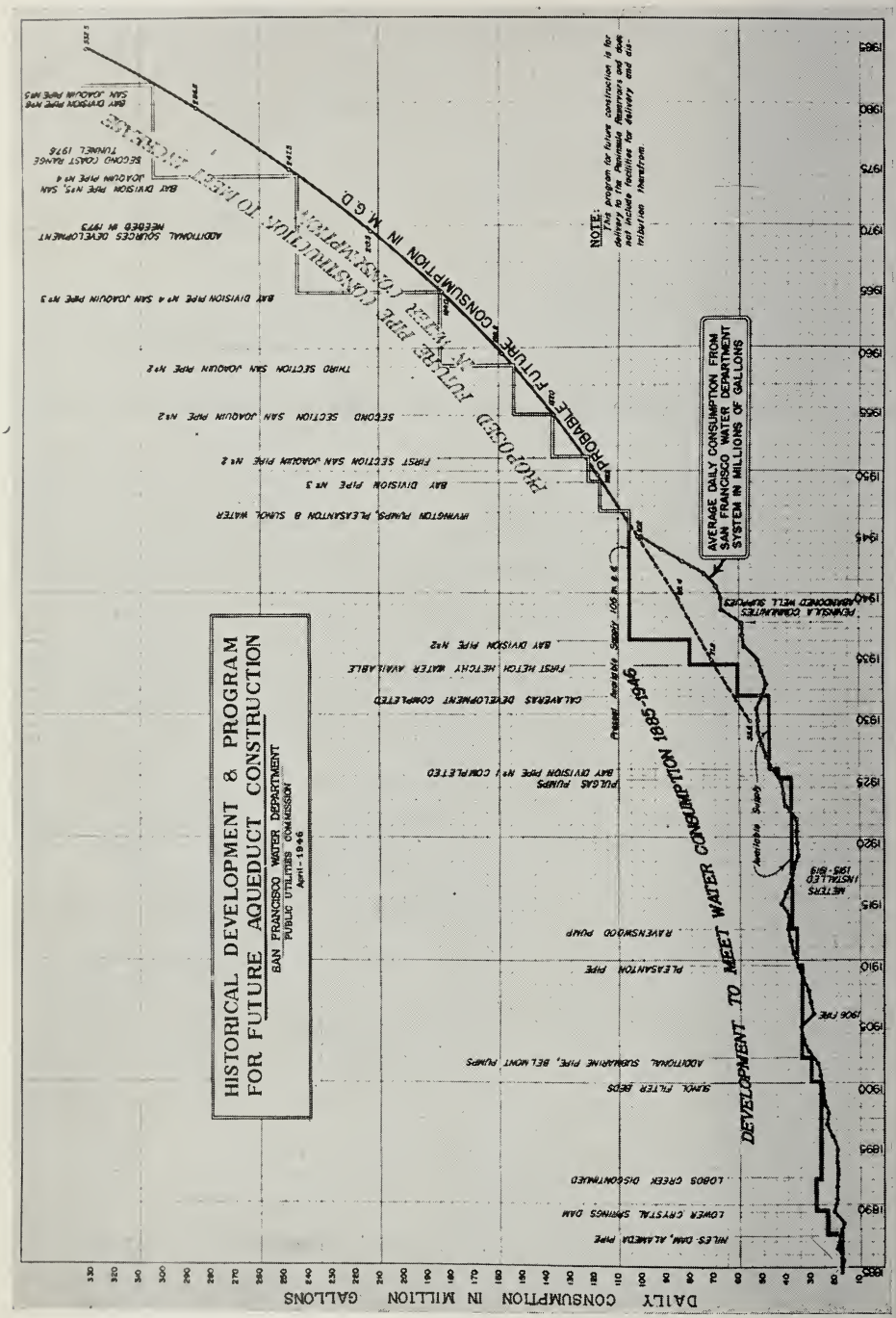
Carhouse and Line Department Roof Repairs:

The condition of the Geneva Avenue Carhouse roof and that of the Turk and Fillmore Line Department buildings reached the point where their repair was badly needed and this was done under Contracts Nos. 251 and 274.

Central Receiving Office:

The increase in the number of Municipal Railway employees upon the acquisition of the Market Street Railway system created very serious crowding conditions in the Geary Street Carhouse offices. A master plan for an overall remodeling of the carhouse building, embracing the alteration of the interior of the existing structure and the addition of another story along the Presidio Avenue side was prepared. This plan constitutes an envisionment of what should be done eventually and was made to supply a framework within which piece-meal changes should be made as funds became available and conditions permitted.

One of the worst conditions of crowding existed in the receiving department where all the moneys turned in each day were handled and counted. Conditions were not only crowded but the space was in an exposed location lacking safety for the moneys as well as the health of the employees. Detail plans and specifications were drawn up and a contract was let for alterations to correct this condition. The space utilized was that occupied by the machine shop, storage rooms and the office


HISTORICAL DEVELOPMENT & PROGRAM FOR FUTURE AQUEDUCT CONSTRUCTION
SAN FRANCISCO WATER DEPARTMENT
PUBLIC UTILITIES COMMISSION
April - 1946
DEVELOPMENT TO MEET WATER CONSUMPTION 1885-1945
PROBABLE FUTURE CONSUMPTION IN M.G.D.
PROPOSED FUTURE PIPE CONSTRUCTION
AVERAGE DAILY CONSUMPTION FROM SAN FRANCISCO WATER DEPARTMENT SYSTEM IN MILLIONS OF GALLONS
NOTE: Long term program for future construction is for delivery to the Peninsula Reservoirs and does not include facilities for delivery and distribution therefrom.
DAILY CONSUMPTION IN MILLION GALLONS
MILES DAM, ALAMEDA PIPE
LOWER CRYSTAL SPRINGS DAM
LOBOS CREEK DISCONTINUED
SUNOL FILTER BEDS
ADDITIONAL SUBMARINE PIPE, BELMONT PUMPS
PLEASANTON PIPE
RAVENSWOOD POWP
METERS INSTALLED 1915-1919
PULGAS PUMPS
BAY DIVISION PIPE N°1 COMPLETED
CALAVERAS DEVELOPMENT COMPLETED
FIRST HETCH HETCHY WATER AVAILABLE
BAY DIVISION PIPE N°2
HYWGTON PUMPS, PLEASANTON & SUNOL WATER
BAY DIVISION PIPE N°3
FIRST SECTION SAN JOAQUIN PIPE N°2
SECOND SECTION SAN JOAQUIN PIPE N°2
THIRD SECTION SAN JOAQUIN PIPE N°2
BAY DIVISION PIPE N°4 SAN JOAQUIN PIPE N°3
ADDITIONAL SOURCES DEVELOPMENT NEEDED BY 1975
BAY DIVISION PIPE N°4, SAN JOAQUIN PIPE N°4
SECOND COAST RANGE TUNNEL 1976
BAY DIVISION PIPE N°5 SAN JOAQUIN PIPE N°5

of the General Superintendent of Equipment and Power. The shop activities were discontinued here and the equipment and personnel moved to Elkton Shops, but space had to be provided in the new layout for carrying on the other functions. One of the big disadvantages to the existing office quarters is that the same entrance is used for executive, office force, and the general public, as that used by the platform men. This causes a great deal of confusion and is generally undesirable. Another serious objection is that two long, steep, flights of stairs must be climbed to reach the offices. This is not only inconvenient for the employees and general public but is hazardous to injured persons who visit the office of the claims department. The master plan for the future contemplated a new entrance to the building on the Presidio Avenue side, closing off the platform department space from office locations, and the installation of elevators. The construction of this entrance was a logical accompaniment of building of the money room as was also an elevator shaft providing for installation of passenger elevators at such time as the new story should be added to the building.

The new quarters when completed will provide modern and safe accommodations for the performance of the functions for which they were built and constitute an important step in the development of the Geary Carhouse building consistent with the Master Plan. (See Contract No. 268.)

Geary Street Carhouse Electric Facilities:

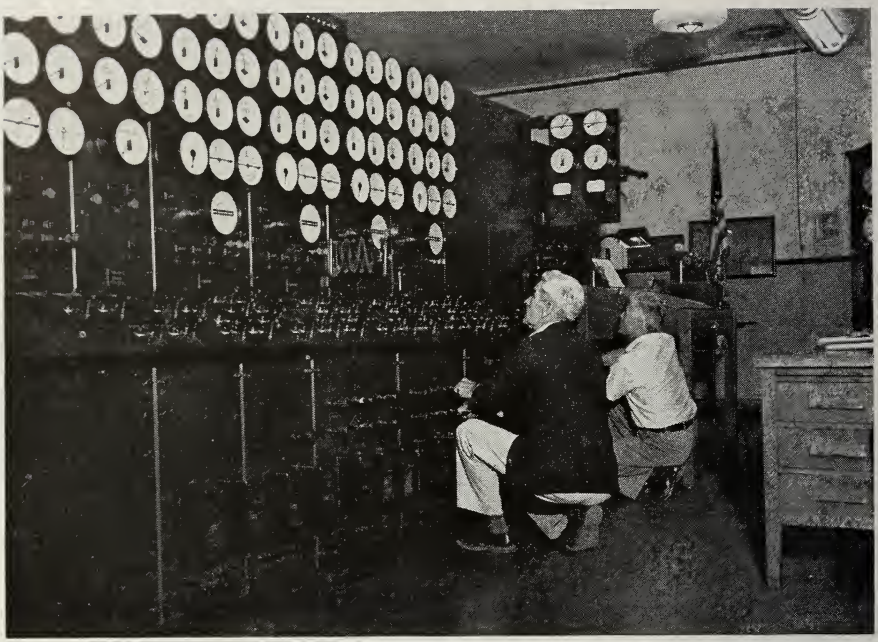
The acquisition of the Market Street Railway properties made it necessary to convert the recreation and billiard room space in the Geary Carhouse building into added quarters for the consolidated accounting departments and to remodel the west wing to provide additional offices. The requisite lighting, heating and ventilating, and business machines for these consumed all existing reserve A. C. wiring and switchboard capacity in the building. It therefore became necessary to provide new electrical capacity when later alterations imposed new loads on the A.C. facilities.

This necessity became imminent when it was decided to build the Central Control office. Rather than to provide only for the increased capacity required for this project, it was deemed advisable to investigate all existing and anticipated future electrical requirements and provide new facilities to care for all such demands. This investigation covered the following projects:

1. **Central Control Office.** This project required A.C. energy for lighting, heating and ventilating, and for communication and recording equipment which was covered by Contract No. 244 and described in the 1945-1946 Annual Report;

2. **Central Receiving Room.** A.C. electrical energy was needed for lighting, heating and ventilating and motor operation of doors in the new Central Receiving room which was covered by Contract No. 268, awarded March 21, 1947, and described elsewhere in this report.

3. **Electric Wiring Bay No. 4.** All power and most incandescent lighting in the carhouse section of the building was supplied by D.C. energy. It was decided to replace the D.C. with A.C. circuits and facilities for the following reasons: 1—Two additional crane hoists were needed to supplement the two existing 30 year old hoists; 2—The State Accident Commission had demanded that open D.C. wiring for the cranes be eliminated; 3—The shop machinery, the control of which is better with D.C. than with A.C. power, had been moved to Elkton Shops; 4—D.C. lighting has been outmoded by A.C. lighting; 5—In view of the preceding, it



POWER CONTROL ROOM
The myriad switches and dials regulate and control the 80,000 kilowatts of electric power generated at Moccasin Power House.

appeared economically wise to replace the D.C. service and equipment with A.C. This was provided for under Contract No. 252, awarded April 21, 1947.

4. **Future Additional Story on Building.** It was deemed wise to also provide sufficient transformer and switchboard capacity for the estimated demands which will result when the additional story and elevator are added as anticipated in the Master Plan for the complete remodeling of the Geary Carhouse building.

The existing A.C. supply was furnished by a P. G. & E. single phase low voltage service which was inadequate to carry the new loads. The P. G. & E. replaced this with a 4,000 volt, 3 phase service connected to a 450 KVA transformer bank installed by them in a transformer room built by the railway under Contract No. 257. Under the same contract, the railway built a new switchboard room and installed a modern switchboard in it of sufficient capacity to handle the loads described above.

Union Street Trolley Coach Line:

During this fiscal year, the conversion of the "E" line from trolley car to trolley coach operation was nearly completed, with the new vehicles operating over most of the route at the end of the year.

Some important route changes were made. The old terminal of this line at the Ferry Building was abandoned, the revised route passing around the Financial District to a connection with the "R" trolley coach line at Beale and Howard

WELDING WATER BUCKET
Water jetting into these 300-pound water buckets turn the generators that create power.

Streets. This makes possible combined operation of the two lines. The old detour around the 18.9 per cent grade on Union Street between Van Ness and Larkin was eliminated, saving a half mile in round trip distance. Instead of entering the Presidio, the outer terminal was shifted to Lyon and Greenwich Streets, just outside. As a right of way is used in the Presidio, paving would have been needed for use by trolley buses, together with policing to keep automotive vehicles off. This right of way is still used by cars of the "D" Line serving the Presidio.

The trolley construction was split up into three contracts. Under Contract No. 225, the Severin Electric Co. installed the trolleys in the Mariposa Yard, adjacent to the Potrero Carhouse, together with the overhead facilities required for access. The same organization completed Contract No. 241, extending the bus trolley system from Beale and Howard Streets to Columbus and Washington Streets. The Abbett Electric Co. was awarded Contract No. 262, covering the remainder of the route. This last was installed in sections which were placed in service successively as soon as ready for operation. Motor coaches were substituted for the "E" cars during the changeover of the overhead. Some portions of the route are still joint with rail lines. On such sections, separate trolleys are used as the cars have trolley wheels while the trolley coaches are equipped with carbon insert shoes for current collectors. Ultimately, all electric vehicles will have carbon insert shoes.

The trolley coaches of the "R" line were stored and serviced on the upper level of the Potrero Carhouse. To provide storage space for trolley coaches of the "E" and "33" lines, the adjacent Mariposa Yard was partially paved and overhead

GENERATOR ASSEMBLY
The working heart of a hydraulic generator is lifted out of its pits so its foundation can be re-aligned.

installed as already mentioned. The trolley coaches of the "33" line had been stored and serviced at the Haight Street Carhouse, which developed a structural failure, forcing abandonment.

The 16 trolley coaches ordered from the St. Louis Car Co. for the "E" line in 1944 were finally delivered in the spring of 1947. Most of the delay was due to war time restrictions. These vehicles have 40 passenger seats, whereas the current manufacturers' standard size provides seats for 44 passengers. The smaller vehicle was specified because of weight considerations in operation over steep grades. The "E" line coaches have steel bodies and weigh approximately 20,100 pounds. The propulsion equipment is Westinghouse with Electrocam controls and force ventilated series motors.

Operation over the steep grades of this route has proven satisfactory. A booster button is pressed by the operator to obtain the extra propulsion current needed for hard pulls.

These trolley coaches replace 32-passenger single track cars that were especially designed for operation over steep grades, which, on the old route, reached a maximum of 13.8 per cent. With increased platform costs, these small two-man cars became very uneconomical to operate. The trolley coaches take this line out of the red and provide faster service.

Central Control:

The new Central Control Office at the Geary Carhouse was placed in service, replacing the old office near the Ferry Building which had telephone facilities

only. A modern office was constructed in the space made available by evacuation of the former carpenter shop to the Elkton shops.

The dispatching room has desk positions for three men. Normally two men handle the heavy part of the day. A third man can be added when needed for major emergencies. Any man can take any incoming telephone call. One man at a separate desk operates the radio. Headway recorders are mounted on a 2-man desk.

The radio equipment is of the Motorola FM type for 2-way communication. The fixed station transmitter (call letters KCRJ) is of 250 watts capacity and operates at a frequency of 31.46 megacycles. The fixed station equipment is located in a small ornamental building erected on Twin Peaks to obtain suitable elevation. A leased telephone circuit to the Central Control Office serves for both control and audio purposes.

The mobile sets have 30 watt transmitters operating at 31.74 megacycles (call letters KCRL). Twenty-two autos are equipped, of which eight are used by motorized inspectors. In addition, four line trucks and three wreckers have radio sets.

The radio installation has been very helpful in handling emergencies. While the nominal range is about 30 miles, communications have been picked up as far away as Atlanta, Georgia, by reflection.

The headway recorder instruments comprise four 20-pen Esterline-Angus recorders. Trolley contactors located at selected points on the system initiate impulses upon the passage of cars or trolley coaches that cause the recorder pens to register on the charts. Thus a record is furnished of the actual headways between vehicles. As the recorders are constantly watched, any abnormal irregularity is immediately investigated.

Leased telephone circuits are used to carry the impulses to the recorder, with ground return to reduce rental costs. The 600 volt impulses received from the contactors energize relays that close the low voltage recorder circuits, the relays being housed in cast aluminum boxes on the poles. Energy for operation of the recorders is supplied by a rectifier, without the usual storage battery.

The various circuits are placed in service as soon as connected up. It is expected that this work will be completed by the end of 1947 with some 80 control points of operating. The partial installation already in operation has been beneficial in improving service.

The Municipal Railway now has the most modern "trouble shooting" dispatching office in the country. This will pay dividends in the form of reduced interruptions to service and improved public relations resulting from improved regularity of service.

Equipment:

Specifications were prepared and orders placed for a number of items of rolling stock.

The first was for 10 trolley cars. These cars are to be double-end, PCC type, of the same size as the last cars purchased. They are to be all-electric, eliminating air brakes, compressors, and with electrically operated accessories that were formerly air operated. There are other incidental improvements, such as greatly increased ventilation. The order was awarded to the St. Louis Car Co., with delivery predicted during the later part of 1947.

SWELLING CONCRETE

An unusual chemical reaction caused by excess water resulted in the concrete floor of the Moccasin Power House "growing" to a point where cracks appeared. Two generators have had to be re-aligned.

Specifications were prepared from which 10 high-powered light weight motor coaches with hydraulic drive were purchased from the Twin Coach Co. These were delivered in the spring of 1947. They have dual 18 hp engines. Torsilastic rubber springs and 44 passenger seats. It was the original intention to get these coaches for standby in case of break down on the cable system, but it has not as yet been necessary to use them in this service. The new coaches have been distributed over various routes, some of which have grades similar to those of the cable car system.

Specifications were also prepared for other lower-powered hydraulic drive motor coaches of 44-passenger size. After making comparative dynamometer tests, an order for 30 coaches was placed with the White Motor Co. Delivery is expected in the fall of 1947.

Preliminary to the conversion of the No. 5 (McAllister) car line to trolley bus operation, specifications were drawn up for the purchase of lightweight 40-passenger trolley coaches. This resulted in the placing of an order with the Marmon-Herrington Co. for 24 trolley coaches. Delivery is promised in May, 1948.

This department furnished factory inspection service for the building of the 16 trolley coaches for the "E" line during the year. Representation was had at equipment technical committee meetings of the American Transit Association. Visits were made to several shops of manufacturing and operating companies.

Conversion of Nos. 5 and 21 Lines:

Because of poor conditions of the tracks, the No. 5 (McAllister) and No. 21 (Hayes) line have been programmed for the next conversion from rail to trolley coach operation. Preliminary plans were made for the trolley work, including additional facilities for the storage area at the Mariposa Yard and the access route.

MUNICIPAL RAILWAY
ACTIVE CONTRACTS
1946-1947 Fiscal Year

No.	Title	Contractor	Date Awarded	Date Completed	Final Cost
222	Potrero-Bayshore Connection	Chas. L. Harney	8/19/46	1/ 2/47	$24.371.25
225	Trolley Installation—17th and Bryant, 17th and Folsom, and Mariposa Yard	Severin Elec. Co.	10/ 8/45	.....	.....
226	Radio House and Antenna on Twin Peaks	Wm. McIntosh & Son	6/11/46	9/ 4/46	2,801.00
234	Alterations to Store Room, 24th Street Garage	Wm. Martin & Son	9/23/46	7/18/47	48,609.73
237	Ventilating Fans, 24th Street Garage	W. B. Baker & Co.	12/ 3/45	9/ 8/46	7,761.19
239	Turk Street Office Building	Wm. Martin & Son	1/29/46	8/22/46	23,878.00
241	Trolley System for Union St. Trolley Coach Line, Howard St. to Montgomery, to Washington	Severin Elec. Co.	11/26/45	12/13/46	23,986.38
242	Reconstruction Tracks on Church St., 24th St. to 27th St.	M. & K. Corp.	2/ 6/46	11/ 8/46	30,472.62*
244	Central Control Office, Geary St. Carbarn	Wm. Martin & Son	4/ 4/46	2/10/47	32,969.06
246	Heating System at Elkton Paint Shop	O'Mara & Stewart, Ltd.	4/ 4/46	9/24/46	5,816.00
248	Reconstructing Tracks on Church St., Market to 17th St.	M. & K. Corp.	2/20/46	10/22/46	62,717.04*
249	Furnishing and Installing Neon Sign at Beale St. Viaduct	Severin Elec. Co.	3/ 8/46	.....	565.00
251	Repair Geneva Carhouse Roof	Empire Roofing Co.	4/ 4/46	10/10/46	5,129.61
252	Electric Wiring Bay No. 4 Geary Carhouse	Edw. W. Scott Elec. Co.	4/21/47	.....	.....
253	Reconstructing Inner Tracks on Market Street	Chas. L. Harney	12/30/46	5/20/47	.....
256	Installing Water Heater At Elkton Paint Shop	O'Mara & Stewart, Ltd.	7/22/46	8/22/46	264.00
257	Switchboard Room and Equipment, Geary Carhouse	H. S. Tittle Co.	7/29/46	1/29/47	8,127.15
260	Installing Car Recorder Pole Box	Municipal Railway	11/12/46	.....	800.00
261	Assembling and Wiring Car Recorder Relay Panels	Municipal Railway	11/12/46	.....	775.00
262	Trolley System for Union Street Trolley Coach Line—Montgomery & Washington to Presidio	Abbett Elec. Co.	9/30/46	.....	.....
263	Installation of Mobile Radio Equipment in Automotive Vehicles (29)	Municipal Railway	.....	5/30/47	995.00
264	Car Recorder Installation at Geary Carhouse Central Control Room	Dept. Pub. Wks.	11/20/46	1/ 9/47	340.00
265	Power Line for Radio Station at Christmas Tree Point on Twin Peaks	Peterson Engr. Co.	10/21/46	12/12/46	1.166.00
268	Central Receiving Room Geary Carhouse	Wellnitz & DeNarde	3/21/47	.....	.....
270	Constructing Stockton Street, Fourth Street Connection	Eaton & Smith	5/26/47	.....	.....
272	Paving a Portion of Mariposa Yard	Chas. L. Harney	12/ 6/46	12/19/46	579.60
274	Repair of Roofs of Line Dept. Bldgs., Fillmore and Turk Sts.	Alta Roofing Co.	12/ 6/46	12/26/46	1,672.00
275	Roof Repairs at Elkton Shops	Mollott & Peterson	12/ 6/46	3/18/47	2,510.00
276	Roof Repairs Garage, Turk & Webster Sts.	Regal Roofing Co.	1/13/47	3/18/47	1.904.00
278	Paving and Installation of Hydraulic Lifts—24th St. Garage	Adam Arras & Son	5/26/47	.....	.....
279	Installing Car Recorder Pole Boxes (17)	Peterson Engr. Co.	6/ 2/47	.....	.....
281	Roof Drains, Elkton Shops	Acme Sheet Metal & Furnace Wks.	4/30/47	5/30/47	455.00
282	Test Borings, Kirkland Yard	Byron M. Mitchell	5/22/47	6/21/47	948.00

*Preliminary Figure.

SAN FRANCISCO AIRPORT ENGINEERING

On June 16, 1947, the first unit of construction in the airport's $20.000,000 expansion program was completed. This first unit was the placing of 6,000,000 cubic yards of earth fill and appurtenant work which was accomplished by the joint venture of Macco Corporation and the Morrison-Knudsen Company at a total cost of $4,352,350.

All requirements of the contract were met, including the provision making mandatory the placing of 820,000 cubic yards of fill within sixty days from the official award. For three consecutive months the contractor placed in excess of 1,000,000 cubic yards of fill each month, working three seven-hour shifts a day. Delays in the delivery of equipment made this speed for such work particularly noteworthy.

But even before this first unit was completed, the contract had been awarded and work begun on the second unit. This contract, calling for 5,000,000 cubic yards of earth fill, went to the Guy F. Atkinson Company whose low bid was $3,722,310. Work started April 21, 1947, and by the end of the fiscal year the contractor had placed 1,250,000 cubic yards. This job, which must be finished by December 15 because the opening of the new Bayshore Freeway on that date will necessitate the closing of the haul road from the quarry, has been organized on a two-shift basis. Progress is satisfactory, with about 40,000 cubic yards being hauled per day.

Paving:

With the major items for filling reclaimed lands for runway and taxiway construction well advanced, the paving of the landing strips and taxiways has assumed greater importance as the immediate demands of air traffic continue to increase.

There has been some delay in getting the paving program underway. The City is to receive federal aid under the Federal Airport Aid Act to assist in financing construction, but before the aid is available the contracts on which it is to be based have to be prepared. This requires extensive preliminary work which, because of a severe shortage of engineers, has been proceeding only slowly.

Miscellaneous Work:

There were several smaller contracts completed during the year, some of which are the first steps in the construction of important projects in the overall expansion program. These include utilities and drainage work.

One such smaller contract financed out of the 1945 bond issue was for the installation of a new Public Address System which centralized all broadcasting on matters pertaining to air transportation in one station. This contract was awarded to Atlas Electric and Engineering Company of San Francisco. Costing $4,070, the installation was completed in November, 1946.

United Air Lines Construction:

During the fiscal year United Airlines completed several units of work under their large expansion program. Included were apron extensions; parking area extension with appurtenant drainage; enlargement of cafeteria and office building, and extensive remodeling of the large Administration building and shops.

The first units completed of United's huge construction program designed to make San Francisco the western maintenance and overhaul base for this airline

were two B-29 hangars. The hangars are prefabricated and were purchased from the Army. While the cost is not known exactly at this time, it is estimated to be over $1,000,000.

Nearing completion are the overhaul shops and engine test buildings, replacing the one that was built in 1940.

The Austin Company of Oakland, Engineers and Builders, are in charge of all building designs and construction for United Air Lines.

Federal Government:

The Civil Aeronautics Administration started during the fiscal year the installation of INSTRUMENT LANDING SYSTEM—a blind landing aid—which is estimated to cost $137,000.

In connection with this project, the City was obliged to furnish tideland for the construction of a "middle marker," an integral part of the landing aid. Since this required the driving of piles, the cost amounted to $5,344.90. The contract was awarded to Duncanson-Harrelson Company of San Francisco.

Gasoline Storage:

The Standard Oil Company of California negotiated a lease with the Public Utilities Commission (Airport Department) for an area on which to install a tank farm for gasoline storage to serve the airlines with whom they have contracts.

The site chosen for this installation was at the Pan American Base, adjacent to the existing storage tanks. The installation consisted of the erection of two 50,000 gallon tanks, one 500,000 gallon tank, including additional pipe lines to the landing docks. Total storage capacity now is 870,000 gallons, including three 90,000 gallon tanks constructed by the Navy during the war which subsequently became the property of the City. Two 5,000 gallon tanks for the storage of lubricating oil were also installed. Total cost of the installations was $60,000.

MISCELLANEOUS WORK

Reservoirs, Dams and Intakes:

A new 5 kw hydroelectric plant was installed at Lake Eleanor.

A large oak log was removed from the stilling pool at the gauging station below O'Shaughnessy Dam, and the 3-inch inlet pipe was cleaned and repaired.

Sand and other trash were removed from in front of the grizzlies to the valves at O'Shaughnessy Dam.

The old wooden structure at spillway "E" on the Cherry canal was dismantled and replaced with a new 44-inch steel pipe set on concrete piers.

Repairs were made to one of the drainage gates on the upstream side of the dam at Intake, and some sand was removed from the reservoir.

The channel below the Priest dam was cleared of brush and debris.

Roads and Trails:

Repairs were made to the trail between stairways in O'Shaughnessy reservoir, and to the trail to the gauging station below the outlet tunnel on the down stream side of O'Shaughnessy dam.

Brush was cleared off the Hetch Hetchy railroad right of way, and 1,500 old ties were replaced with new ones. The track was repaired and re-aligned, and cattle guards and fences repaired where needed.

Trails were cut around City property at Moccasin, West Portal and Priest as a protection against fire, and the grass burned off in the enclosed areas.

Culverts and side ditches were cleaned, cross ditches were dug, and roads graded on the Hetch Hetchy project.

During the winter months snow was plowed off the Hetch Hetchy railroad between Groveland and Mather, and plowed off the highway between Mather and O'Shaughnessy Dam.

A new concrete culvert was installed on the South Fork—Mather road near the Oakland Recreation Camp, and repairs were made to the bridge over the Middle Fork of the Tuolumne river.

A section of the road leading to the South Fork pipe crossing was moved over into the bank. This was due to the original road having been washed into the river by flood waters.

Power Houses and Penstocks:

Unit No. 1 at Intake Power House was overhauled. A re-built runner, new seal rings, wickets and thrust bearings were installed, and a new pedestal bearing was installed on the exciter.

The main needle and needle seat of Unit No. 2 north water wheel in Moccasin power house were replaced with a new one.

New thrust bearings were installed in Units No. 2 and No. 3 at Intake Power House, the governor of Unit No. 3 was overhauled and cleaned and the unloader valve replaced.

Expansion joints No. 2-10, 3-4, 1-10 and 3-10 on the Moccasin penstock were re-packed, and the piston of penstock valve No. 3-S was re-packed.

A flow meter was installed on Moccasin penstocks No. 2 and 3 in order to ascertain the efficiency of the Units in the power house.

The bottom trestle on the Moccasin penstock tramway was removed and replaced with a rock and earth fill.

Two hundred and ten old ties on the Moccasin penstock tramway were replaced with new ones.

Transmission and Telephone Lines:

Insulators were cleaned and wiped on the 110 kv transmission line, the stubs of several towers were cleaned, towers were painted with aluminum paint, dampers were removed and re-set and faulty dampers replaced with new ones, and armor rods installed.

The tower line crew did general maintenance work on the 110 kv transmission line, installed new gates on the right of way roads where needed and cleared brush from the right of way and burned it.

The line crew operating out of Moccasin did maintenance work on the 22 kv transmission line and on the telephone line in the mountain and foothill divisions, and made repairs and replacements.

During the year they replaced 39 poles on the 22 kv transmission line, 1 on the 440 volt line at Mather, set 4 poles at Lake Eleanor in connection with the new hydroelectric plant, and replaced 61 poles on the telephone line.

VALVE OPEN!

Water from Hetch Hetchy Reservoir spews out in a milky stream into the Tuolumne River when a valve in O'Shaughnessy Dam is opened.

Tunnels:

The barriers were removed from Adits 5-6 and 8-9. These barriers were erected as a safety measure during wartime.

The grizzlies were raised at the Cherry diversion dam and the rocks sluiced into the tunnel. The log boom was repaired and placed in front of the grizzlies.

The Cherry aqueduct was inspected from the entrance at the Cherry diversion dam to tunnel No. 5 and everything found O.K. A large oak branch was removed from tunnel No. 4.

A mercoid switch was installed at the Tesla Portal pump house to operate on low water pressure, automatically stopping the pump before running out of water.

Camp Buildings and Cottages:

Work was started on the construction of a new cottage and garage for the reservoir keeper at Lake Eleanor, and repairs were made to the camp buildings.

The living quarters at the Moccasin store and at cottage No. 23 at Moccasin were reconstructed.

A 4-inch cast iron sewer line was laid from the main 6-inch sewer line to cottages No. 1, 2 and 3 at Moccasin.

A shed was erected at the north end of the carpenter shop for the storage of lumber.

The old railroad depot and explosives store house at Groveland were dismantled and the salvageable material stored at Moccasin.

General:

The 5-inch water line from Moccasin to Don Pedro Siding was re-aligned in the vicinity of Stevens Bar bridge. This was made necessary by the proposed construction of a new bridge across the Tuolumne river at Stevens Bar.

COAST RANGE DIVISION

The regular annual tunnel inspection from Alameda East Portal to Tesla Portal was not made, due to the necessity of maintaining the tunnel in full operation during the year. In order to make this inspection it would require that the tunnel be shut down for approximately two weeks.

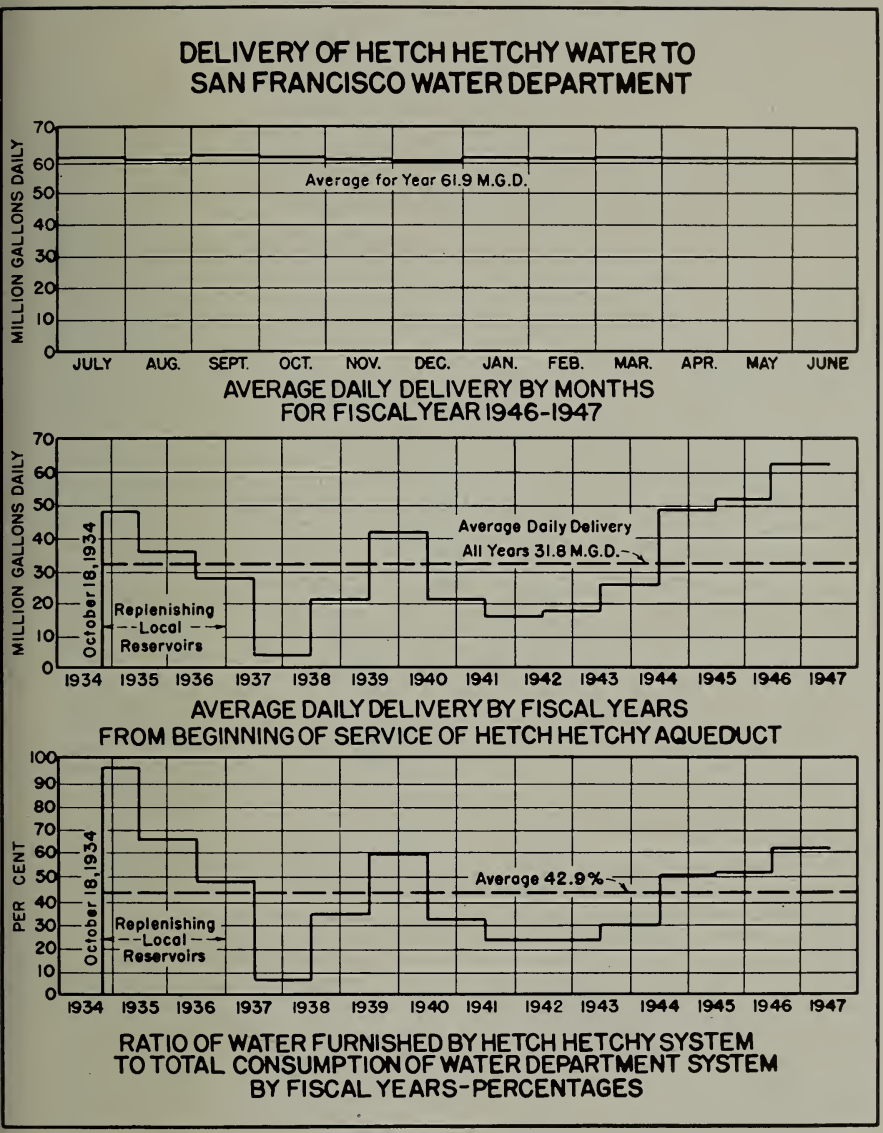
A new steel, non-climable steel fence was installed around the electric substation Alameda East Portal and one around the portable steel headframe and construction shaft at Valle Camp. The headframe was also painted. These fences are so installed that they can be removed in event that any work on the shafts may be necessary, and then replaced.

The foundations at the various camps for the portable steel headframe were repaired. It is now possible to install this headframe at any of the shafts, in the event it may become necessary to do any work in the shaft.

New grizzlies were installed in front of the culverts, running through the Mitchell dump, to carry flood waters from Mitchell ravine. These grizzlies catch all the drift that comes down with the floods and prevent the culverts from becoming clogged up.

The four wells, dug by the City during tunnel construction days to furnish water to Mitchell and Thomas camps in Corrall Hollow, were filled in and the ground levelled up.

A retaining wall was built at the gate to Alameda Portal, to prevent the erosion



of the fill at this point and to prevent it from running onto the County Road. The old cut, where the tramway from Alameda Camp to Alameda East Portal, was located, has been filled in and the surface levelled off and gravelled, thus providing more roadway in front of the tunnel portal.

The washed-out section of the Mocho road, at the point where the tunnel dump washed away, was rebuilt, and one-half mile section of the Indian Creek road surfaced with gravel.

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
CONSOLIDATED BALANCE SHEET
June 30, 1947

ASSETS AND OTHER DEBITS

	Total	Power	Water
UTILITY PLANT			
Electric Plant	$12,423,515.12	$12,423,515.12	.....
Water Supply Property	93,325,495.98	.....	$93,325,495.98
Construction Work in Progress	37,054.95	.....	37,054.95
Total Utility Plant	$105,786,066.05	$12,423,515.12	$93,362,550.93
Less Reserve for Depreciation	21,138,864.77	5,716,406.70	15,422,458.07
Remainder, Depreciation Value	$84,647,201.28	$6,707,108.42	$77,940,092.86
INVESTMENTS			
Other Physical Property:			
Amazon and Glen Park Reservoir Sites	$460,925.00	.....	$460,925.00
CURRENT AND ACCRUED ASSETS			
Cash on Deposit with Treasurer:			
H. H. Project Operating Fund	$485,837.44	$137,201.39	$348,636.05
H. H. Reconstruction and Replacement Fund	861,391.61	655,828.27	205,563.34
H. H. Bond Funds	210,502.43	.....	210,502.43
Special Deposits with Treasurer:			
H. H. Bond Interest Funds	597,863.75	.....	597,863.75
H. H. Bond Redemption Funds	1,018,000.00	.....	1,018,000.00
H. H. W. S. Land Purchase Fund	1,781.50	.....	1,781.50
Working Funds:			
Revolving Funds	4,000.00	4,000.00	.....
Cash in Transit	2,022.60	1,263.64	758.96
Accounts Receivable:			
General Debtors	131,985.00	131,512.06	472.94
Receivables from Municipality:			
Interfund Accounts, P.S.E.:			
San Francisco Water Dept.	.....	.....	.....
San Francisco Airport	134,925.35	.....	134,925.35
Municipal Railway	30,218.70	.....	30,218.70
Public Utilities Commission	172,734.13	169,828.16	2,905.97
Interfund Accounts, General City and County:			
Recreation Department	505.11	505.11	.....
Materials and Supplies:			
Electric	27,129.52	27,129.52	.....
Corral Hollow Pipe Line	6,676.42	.....	6,676.42
Prepayments:			
Tesla Chlorinator Power Line	583.58	.....	583.58
Public Utilities Commission	1,088.56	546.70	541.86
Fire Insurance Premium	539.60	.....	539.60
Total Current and Accrued Assets	$3,687,785.30	$1,127,814.85	$2,559,970.45
DEFERRED DEBITS			
Cash Withheld by H.H.W.S. for work enc. but not yet performed (Contra)	$9,168.52	$3,056.17	$6,112.35
Suspense Debits:			
Land Purchase Deposit	500.00	.....	500.00
Deferred Bureau of Engineering Expense	341.16	.....	341.16
U. S. Navy Plane Damage Claim	13,596.72	13,596.72	.....
Preliminary Investigations and Surveys	160,074.19	.....	160,074.19
Commitments (Contra)	289,764.39	214,722.96	75,041.43
Work in Progress:			
Accounts Receivable and Interfund	68,508.08	.....	68,508.08
Replacements	184,048.45	184,048.45	.....
Other Work in Progress	27,122.69	1,570.62	25,552.07
Total Deferred Debits	$753,124.20	$416,994.92	$336,129.28
TOTAL ASSETS AND OTHER DEBITS	$89,549,035.78	$8,251,918.19	$81,297,117.59

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
CONSOLIDATED BALANCE SHEET
June 30, 1947

LIABILITIES AND OTHER CREDITS

LONG TERM DEBT	Total	Power	Water
Bonds, Municipality:			
Issues 1910 to 1933, Due Dec. 1, 1946 to July 1, 1977	$48,025,000.00	$5,570,900.00	$42,454,100.00
CURRENT AND ACCRUED LIABILITIES			
Accounts Payable and Commitments:			
Warrants Outstanding	$71,020.78	.....	$71,020.78
General Creditors	82,325.02	80,684.97	1,640.05
Commitments (Contra)	289,764.39	214,722.96	75,041.43
Payables to Municipality:			
Interfund Accounts, P.S.E.:			
San Francisco Water Department	7,652.12	474.91	7,177.21
Municipal Railway	1,274.82	.....	1,274.82
Public Utilities Commission	10.92	10.34	.58
Interfund Accounts, General City and County:			
Employees' Retirement System	14,519.45	5,130.58	9,388.87
Cash Reserve Fund	500,000.00	.....	500,000.00
General Fund	1,875.25	145.76	1,729.49
Matured Long Term Debt:			
Matured Bonds not Presented for Payment	18,000.00	.....	18,000.00
Matured Interest:			
Matured Coupons not Presented for Payment	55,363.75	.....	55,363.75
Interest Accrued not Due	985,407.90	.....	985,407.90
Accrued Fee—U. S. Government (Raker Act)	15,000.00	.....	15,000.00
Total Current and Accrued Liabilities	$2,042,214.40	$301,169.52	$1,741,044.88
DEFERRED CREDITS			
Suspense Credits:			
Deferred Interfund Payable	$671.46	.....	$671.46
Stores Clearing Account	2.20	$2.20	.....
Service Charges in Transit	1,503.45	.....	1,503.45
Total Deferred Credits	$2,177.11	$2.20	$2,174.91
RESERVES			
Employees' Provident Reserve:			
Reserve for Vacations	$9,451.42	.....	$9,451.42
Reserve for Sick Leave	7,293.29	.....	7,293.29
Reserve for Compensation Insurance	15,472.95	.....	15,472.95
Reserve for Unclaimed Warrants	12.35	.....	12.35
Reserve for Advance Work not yet performed:			
Hetch Hetchy Water Supply (Contra)	6,112.35	.....	6,112.35
Hetch Hetchy Power Division (Contra)	3,056.17	.. ..	3,056.17
Municipal Railway	6,112.35	.....	6,112.35
Total Reserves	$47,510.88	.....	$47,510.88
Total Liabilities	$50,116,902.39	$5,872,071.72	$44,244,830.67
SURPLUS			
Surplus (See Detail Annexed)	$39,432,133.39	$2,379,846.47	$37,052,286.92
TOTAL LIABILITIES AND OTHER CREDITS	$89,549,035.78	$8,251,918.19	$81,297,117.59

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
CONSOLIDATED COMPARATIVE INCOME STATEMENT
June 30, 1947

UTILITY OPERATING INCOME	July 1, 1946 to June 30, 1947				July 1, 1945 to June 30, 1946			
	Power	Water	Eliminate Duplications	Consolidated	Power	Water	Eliminate Duplications	Consolidated
Operating Revenue:								
Sales of Electric Energy:								
Commercial and Industrial Sales	$964,681.77	.....	.....	$964,681.77	$739,956.99	.....	.....	$739,956.99
Public Street and Highway Lighting	406,946.11	.....	.....	406,946.11	401,742.12	.....	.....	401,742.12
Other Sales to Public Authorities	513,175.99	.....	.....	513,175.99	520,355.08	.....	.....	520,355.08
Sales to Other Electric Utilities	330,124.67	.....	.....	330,124.67	286,089.55	.....	.....	286,089.55
Sales to Railroads and Railways	1,103,041.95	.....	.....	1,103,041.95	1,109,716.29	.....	.....	1,109,716.29
Other Sales	1,034.27	.....	.....	1,034.27	809.77	.....	.....	809.77
Total Sales of Electric Energy	$3,319,004.76	.....	.....	$3,319,004.76	$3,058,669.80	.....	.....	$3,058,669.80
Other Electric Revenues	18,352.89	.....	.....	18,352.89	8,365.42	.....	.....	8,365.42
Water Sales:								
Sale of Water for Power, H.H.P.O.	.....	$813,137.00	$813,137.00	.....	.....	$735,474.00	$735,474.00	.....
Standby Charge and Sale of Water S.F.W.D.	.....	3,731,908.00	.....	3,731,908.00	.....	661,277.00	.....	661,277.00
Total Operating Revenues	$3,337,357.65	$4,545,045.00	$813,137.00	$7,069,265.65	$3,067,035.22	$1,396,751.00	$735,474.00	$3,728,312.22
Operating Revenue Deductions:								
Operating Expenses:								
Production Expense	$160,367.78	$132,054.43	.....	$292.422.21	$139,508.92	$116,580.86	.....	$256,089.78

Purchase of Water for Power	813,137.00	.....	$813,137.00	.....	735,474.00	.....	$735,474.00	.....
Purchased Power	87,117.74	.....	.....	87,117.74	19,199.46	.....	.....	19,199.46
Transmission Expense	46,851.21	39,734.12	.....	86,585.33	45,219.59	50,348.05	.....	95,567.64
Distribution Expense	840,260.11	.....	.....	840,260.11	853,701.22	.....	.....	853,701.22
War Emergency—Protection of Property	.....	.....	.....	.....	1,870.52	1,535.88	.....	3,406.40
Administrative and General Expense	79,742.59	138,327.20	.....	218,069.79	59,847.10	73,539.09	.....	133,386.19
Total Operating Expenses	$2,027,476.43	$310,115.75	$813,137.00	$1,524,455.18	$1,854,820.81	$242,003.88	$735,474.00	$1,361,350.69
Depreciation Expense	306,552.18	1,300,167.37	.....	1,606,719.55	300,879.77	1,336,006.46	.....	1,636,886.23
Taxes (Actually Paid)	.....	21,745.61	.....	21,745.61	.....	16,676.14	.....	16,676.14
Fee to U. S. Government (Raker Act)	.....	30,000.00	.....	30,000.00	.....	30,000.00	.....	30,000.00
Total Operating Revenue Deductions	$2,334,028.61	$1,662,028.73	$813,137.00	$3,182,920.34	$2,155,700.58	$1,624,686.48	$735,474.00	$3,044,913.06
Net Operating Revenues	$1,003,329.04	$2,883,016.27	.....	$3,886,345.31	$911,334.64	*$227,935.48*	.....	$683,399.16
OTHER INCOME								
Miscellaneous Non-Operating Revenue	.....	712.25	.....	712.25	.....	610.06	.....	610.06
Gross Income	$1,003,329.04	$2,883,728.52	.....	$3,887,057.56	$911,334.64	*$227,325.42*	.....	$684,009.22
Interest on Long Term Debt	$259,141.41	$1,974,836.29	.....	$2,233,977.70	$271,010.15	$2,065,285.07	.....	$2,336,295.22
Balance Transferred to Earned Surplus	$744,187.63	$908,892.23	.....	$1,653,079.86	$640,324.49	*$2,292,610.49*	.....	*$1,652,286.09*

Italic figures denote loss and deficiency.

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
CONSOLIDATED SURPLUS ACCOUNT
For the Twelve Months Ended June 30, 1947

	Power	Water	Eliminate Duplications	Consolidated
Surplus, June 30, 1946	$1,443,379.71	$36,223,519.29	.....	$37,666,899.00
Additions to Surplus:				
Contributions from Hetch Hetchy Power Division for Bond Interest and Redemption, July 1, 1946 to June 30, 1947	$187,800.00	.....	$187,800.00	.....
Contributions from Hetch Hetchy Power Division for Buildings, Structures and Improvements, Reconstruction and Replacements	.....	$10,049.72	10,049.72	.....
Contributions from San Francisco Water Department for Operating Expenses	.....	79,734.52	.....	$79,734.52
Miscellaneous Contributions to Surplus	.....	232.54	.....	232.54
Miscellaneous Additions to Surplus	14,538.56	28,659.37	.....	43,197.93
Net Earnings from Operations for Twelve Months ended June 30, 1947	744,187.63	908,892.23	.....	1,653,079.86
Deductions from Surplus:				
Contributions from General Fund—Taxes Prior Years	.....	6,836.06	.....	6,836.06
Contributions to Hetch Hetchy Water Supply for Bond Interest and Redemption, July 1, 1946 to June 30, 1947	.....	187,800.00	187,800.00	.....
Contributions to Hetch Hetchy Water Supply for Reconstruction and Replacements 1946-47	10,049.72	.....	10,049.72	.....
Miscellaneous Deductions from Surplus	9.71	3,364.69	.....	3,374.40
Contributions from San Francisco Water Department for Buildings, Structures and Improvements, Reconstruction and Replacements	.....	800.00	.....	800.00
Surplus, June 30, 1947	$2,379,846.47	$37,052,286.92	.....	$39,432,133.39

Composition of Surplus Cumulative to June 30, 1947

Additions to Surplus:				
Contributions from General Fund for Bond Interest and Redemption	.....	$37,286,317.76	.....	$37,286,317.76
Contributions from Hetch Hetchy Power Division for Bond Interest and Redemption and Reconstruction	.....	23,284,425.46	$23,284,425.46	.....
Contributions from Hetch Hetchy Power Division for Reconstruction and Replacements and Equipment	.....	361,702.31	361,702.31	.....

Contributions through General Fund from San Francisco Water Department for Bond Interest and Redemption	.....	6,278,591.14	.....	6,278,591.14
Contributions from San Francisco Water Department for Operating Expenses	.....	2,104,138.26	.....	2,104,138.26
Contributions from San Francisco Water Department for Reconstruction and Replacements	$1,228.59	33,041.84	.....	34,270.43
Interest Received from Other Funds	.....	77,801.23	.....	77,801.23
Bond Premium 1910-1932 Hetch Hetchy Bond Funds	.....	1,240,169.26	.....	1,240,169.26
Bond Premium 1933 Hetch Hetchy Dam Bonds	.....	137,438.55	.....	137,438.55
Grants Earned on Federal Work Projects—Hetch Hetchy Dam and Moccasin Diversion Works	.....	1,211,450.00	.....	1,211,450.00
Contributions from San Francisco Water Department for Bond Interest and Redemption	.....	2,335,819.00	.....	2,335,819.00
Contributions from Hetch Hetchy Power Division to 1932 Bond Fund for Sale of 2 Steel Transmission Towers	.....	250.00	250.00	.....
Miscellaneous Additions to Surplus	26,345.60	38,584.49	.....	64,930.09
Contributions from 1932 Hetch Hetchy Bond Fund for 4 New Cottages at Early Intake and Sectionalizing Switches and Telephone Line	50,278.97	.....	50,278.97	.....
Miscellaneous Contributions	.....	232.54	.....	232.54
Net Earnings from Power Operations, August 16, 1925 to June 30, 1947	26,341,259.51	.....	.....	26,341,259.51
Deductions from Surplus:				
Net Loss from Water Productions, July 1, 1936 to June 30, 1947	.....	34,179,687.25	.....	34,179,687.25
Bond Discount, 1910 Hetch Hetchy Bonds	.....	737,956.39	.....	737,956.39
Retirement Corral Hollow Pipe Line	.....	1,287,161.51	.....	1,287,161.51
Cost of Newark-San Lorenzo Pipe Line Transferred to San Francisco Water Department	.....	1,063,840.76	.....	1,063,840.76
Contributions from 1932 Hetch Hetchy Bond Fund to Hetch Hetchy Power Division for Reconstruction and Replacements	.....	50,278.97	50,278.97	.....
Proceeds from Sale of Land—Transferred to San Francisco Water Department	.....	2,800.00	.....	2,800.00
Miscellaneous Deductions from Surplus	882.00	15,950.04	.....	16,832.04
California Railroad Commission Evaluation of P. G. & E. Co.'s San Francisco Properties	392,006.43	.....	.....	392,006.43
Contributions to 1932 Hetch Hetchy Bond Fund for Sale of 2 Steel Transmission Towers	250.00	.....	250.00	.....
Contributions to Hetch Hetchy Water Supply for Reconstruction and Replacements	361,702.31	.....	361,702.31	.....
Contributions to Hetch Hetchy Water Supply for Bond Interest and Redemption	23,284,425.46	.....	23,284,425.46	.....
Surplus, June 30, 1947	$2,379,846.47	$37,052,286.92	.....	$39,432,133.39

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
DETAIL OF INTERFUND ACCOUNTS RECEIVABLE
June 30, 1947

		Invoice Number Water	Power	Total	Power	Water
	PUBLIC SERVICE ENTERPRISES					
3320	Municipal Railway					
	Completed work order.....	H 6-3		$7,807.59	.....	$7,807.59
	Completed work order.....	H 6-4		8,389.88	.....	8,389.88
	Completed work order.....	H 6-9		14,021.23	.....	14,021.23
				$30,218.70	.....	$30,218.70
3340	San Francisco Airport					
	Completed work order.....	H 6-5		$64,936.11	.....	$64,936.11
	Completed work order.....	H 6-6		69,989.24	.....	69,989.24
				$134,925.35	.....	$134,925.35
3370	Public Utilities Commission					
	For sale of electric energy to city departments—June, 1947			$166,766.87	$166,766.87	.....
	Refund of unexpended advances for 1946-47 P.U.C. expenses.....			5,967.26	3,061.29	$2,905.97
				$172,734.13	$169,828.16	$2,905.97
	GENERAL CITY AND COUNTY					
3410	Recreation Department					
	Completed work order.....	H 6-6		.....	.....	.....
	Electric Energy, January-July, 1947.		O/W 852-381	$492.96	$492.96	.....
	Telephone Calls, January-July, 1947.		O/W 853-382	12.15	12.15	.....
				$505.11	$505.11	.....

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
DETAILS OF INTERFUND ACCOUNTS PAYABLE
June 30, 1947

		Invoice Number				
		Water	Power	Total	Power	Water
	PUBLIC SERVICE ENTERPRISES					
3300	San Francisco Water Department					
	Completed work order.....	6-129		$341.16	.....	$341.16
	Completed work order.....	6-130		153.86	.....	153.86
	Completed work order.....	6-131		445.56	.....	445.56
	Completed work order.....	6-132		3,762.50	.....	3,762.50
	Completed work order.....	6-133		62.63	.....	62.63
	Completed work order.....	6-134		63.53	.....	63.53
	Completed work order.....	6-135	6-158	811.39	$271.79	539.60
	Completed work order.....	6-136	6-159	1,039.53	203.12	836.41
	Completed work order.....	6-137		971.96	.....	971.96
				$7,652.12	$474.91	$7,177.21
3320	Municipal Railway					
	Return of unused portion of advances from Municipal Railway for 1946-1947 portion Engineering Bureau expenses	J.E. 6-41		$1,274.82	.....	$1,274.82
3370	Public Utilities Commission					
	Electric bills for June, 1947.....	D.P. 6-11	6-6	$10.92	$10.34	$.58
	GENERAL CITY AND COUNTY					
3400	Employees' Retirement System					
	Matching Employees' Contributions—Fiscal Year 1946-1947.....			$11,980.02	$5,116.75	$6,863.27
	Compensation and Medical.....	6-126	6-157	31.33	13.83	17.50
	Compensation and Medical.....	6-127		2,457.12	.....	2,457.12
	Compensation and Medical.....	6-128		50.98	.....	50.98
				$14,519.45	$5,130.58	$9,388.87
3450	General Fund					
	Work Order—Purchasing Department		6-130	$145.76	$145.76	.....
	Work Order—Board of Public Works	6-103		1,708.99	.....	$1,708.99
	Work Order—Real Estate Department	6-102		20.50	.....	20.50
				$1,875.25	$145.76	$1,729.49
3460	Cash Reserve Fund					
	Temporary Loan to H. H. P. D. to meet Bond Interest and Redemption due 7/1/46.....	J.E. 6-26		$500,000.00	.....	$500,000.00

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
STATEMENT OF
ANNUAL BOND INTEREST BY FISCAL YEARS (CASH BASIS)

Interest Maturity Dates / Rate of Interest	Issue of: July 1 / January 1 1909	July 1 / January 1 1910	July 1 / January 1 1925	July 1 / January 1 1928	December 1 / June 1 1932	December 1 / June 1 1933	Total
2¾%	.....	.....	.....	.....	$324,000.00	.....	$324,000.00
3%	.....	.....	.....	.....	194,000.00	.....	194,000.00
4%	.....	.....	.....	.....	280,000.00	$3,500,000.00	3,780,000.00
4½%	$600,000.00	$45,000,000.00	.....	$24,000,000.00	143,000.00	.....	69,743,000.00
5%	.....	.....	$10,000,000.00	.....	1,234,000.00	.....	11,234,000.00
5¾%	.....	.....	.....	.....	4,325,000.00	.....	4,325,000.00
Total Issues	$600,000.00	$45,000,000.00	$10,000,000.00	$24,000,000.00	$6,500,000.00	$3,500,000.00	$89,600,000.00
Bond Interest Expense as of June 30, 1946	$72,900.00	$36,377,194.97	$7,849,277.69	$15,585,055.96	$4,355,077.57	$1,047,647.23	$65,287,153.42
Interest Fiscal Year							
1946-47	.....	$810,000.00	$281,250.00	$850,500.00	$254,712.50	$52,500.00	$2,248,962.50
1947-48	.....	765,000.00	268,750.00	823,500.00	243,895.00	45,500.00	2,146,645.00
1948-49	.....	720,000.00	256,250.00	796,500.00	233,077.50	38,500.00	2,044,327.50
1949-50	.....	675,000.00	243,750.00	769,500.00	222,260.00	31,500.00	1,942,010.00
1950-51	.....	630,000.00	231,250.00	742,500.00	211,442.50	24,500.00	1,839,692.50
1951-52	.....	585,000.00	218,750.00	715,500.00	200,625.00	17,500.00	1,737,375.00
1952-53	.....	540,000.00	206,250.00	688,500.00	189,872.50	10,500.00	1,635,122.50
1953-54	.....	495,000.00	193,750.00	661,500.00	179,120.00	3,500.00	1,532,870.00

1954-55	.....	450,000.00	181,250.00	634,500.00	168,367.50	.....	1,434,117.50
1955-56	.....	405,000.00	168,750.00	607,500.00	157,615.00	.....	1,338,865.00
1956-57	.....	360,000.00	156,250.00	580,500.00	146,862.50	.....	1,243,612.50
1957-58	.....	315,000.00	143,750.00	553,500.00	136,110.00	.....	1,148,360.00
1958-59	.....	270,000.00	131,250.00	526,500.00	125,360.00	.....	1,053,110.00
1959-60	.....	225,000.00	118,750.00	499,500.00	114,610.00	.....	957,860.00
1960-61	.....	180,000.00	106,250.00	472,500.00	103,860.00	.....	862,610.00
1961-62	.....	135,000.00	93,750.00	445,500.00	93,110.00	.....	767,360.00
1962-63	.....	90,000.00	81,250.00	418,500.00	82,360.00	.....	672,110.00
1963-64	.....	45,000.00	68,750.00	391,500.00	71,610.00	.....	576,860.00
1964-65	.....	.....	56,250.00	364,500.00	61,377.50	.....	482,127.50
1965-66	.....	.....	43,750.00	337,500.00	51,895.00	.....	433,145.00
1966-67	.....	.....	31,250.00	310,500.00	42,412.50	.....	384,162.50
1967-68	.....	.....	18,750.00	283,500.00	32,930.00	.....	335,180.00
1968-69	.....	.....	6,250.00	256,500.00	23,447.50	.....	286,197.50
1969-70	.....	.....	.....	229,500.00	13,965.00	.....	243,465.00
1970-71	.....	.....	.....	202,500.00	4,482.50	.....	206,982.50
1971-72	.....	.....	.....	175,500.00	.....	.....	175,500.00
1972-73	.....	.....	.....	148,500.00	.....	.....	148,500.00
1973-74	.....	.....	.....	121,500.00	.....	.....	121,500.00
1974-75	.....	.....	.....	94,500.00	.....	.....	94,500.00
1975-76	.....	.....	.....	67,500.00	.....	.....	67,500.00
1976-77	.....	.....	.....	40,500.00	.....	.....	40,500.00
1977-78	.....	.....	.....	13,500.00	.....	.....	13,500.00
Totals	$72,900.00	$44,972,194.97	$11,155,527.69	$29,409,055.96	$7,520,457.57	$1,271,647.23	$93,501,783.42

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
STATEMENT OF
ANNUAL BOND REDEMPTION BY FISCAL YEARS (CASH BASIS)

Redemption Dates / Rate of Interest	July 1	July 1	January 1	July 1	June 1	December 1	
	Issue of						
	1909	1910	1925	1928	1932	1933	Total
2¾%	.....	.....	.....	.....	$324,000.00	.....	$324,000.00
3%	.....	.....	.....	.....	194,000.00	.....	194,000.00
4%	.....	.....	.....	.....	280,000.00	$3,500,000.00	3,780,000.00
4½%	$600,000.00	$45,000,000.00	.....	$24,000,000.00	143,000.00	.....	69,743,000.00
5%	.....	.....	$10,000,000.00	.....	1,234,000.00	.....	11,234,000.00
5¾%	.....	.....	.....	.....	4,325,000.00	.....	4,325,000.00
Total Issued	$600,000.00	$45,000,000.00	$10,000,000.00	$24,000,000.00	$6,500,000.00	$3,500,000.00	$89,600,000.00
Bonds Matured as of June 30, 1946	$600,000.00	$27,000,000.00	$4,250,000.00	$4,800,000.00	$1,600,000.00	$2,100,000.00	$40,350,000.00
Annual Redemption Fiscal Year							
1946-47	.....	$1,000,000.00	$250,000.00	$600,000.00	$200,000.00	$175,000.00	$2,225,000.00
1947-48	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1948-49	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1949-50	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1950-51	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1951-52	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1952-53	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1953-54	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1954-55	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00

1955-56	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1956-57	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1957-58	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1958-59	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1959-60	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1960-61	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1961-62	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1962-63	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1963-64	.....	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1964-65	.....	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1965-66	.....	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1966-67	.....	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1967-68	.....	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1968-69	.....	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1969-70	.....	.....	.....	600,000.00	200,000.00	.....	800,000.00
1970-71	.....	.....	.....	600,000.00	100,000.00	.....	700,000.00
1971-72	.....	.....	.....	600,000.00	.....	.....	600,000.00
1972-73	.....	.....	.....	600,000.00	.....	.....	600,000.00
1973-74	.....	.....	.....	600,000.00	.....	.....	600,000.00
1974-75	.....	.....	.....	600,000.00	.....	.....	600,000.00
1975-76	.....	.....	.....	600,000.00	.....	.....	600,000.00
1976-77	.....	.....	.....	600,000.00	.....	.....	600,000.00
1977-78	.....	.....	.....	600,000.00	.....	.....	600,000.00
Totals	.....	$600,000.00	$45,000,000.00	$10,000,000.00	$24,000,000.00	$6,500,000.00	$3,500,000.00	$89,600,000.00

HETCH HETCHY PROJECT RECONSTRUCTION AND REPLACEMENT FUND
APPROPRIATION STATEMENT
As of June 30, 1947

Appropriation Number		Allotment	Expenditures	Encumbrances	Expenditures and Encumbrances	Unencumbered Balance of Appropriation
	Unappropriated Balance of Funds	$3,370.86	.....	.....	.....	$3,370.86
68.925.00	Unallocated Balance	129,165.51	.....	.....	.....	129,165.51
.01	Unallocated Balance	124,743.10	.....	.....	.....	124,743.10
	Replacement:					
.925.00-22	Storage Battery, O'Shaughnessy Dam	3,000.00	.....	.....	.....	3,000.00
.00-42	Poles, Crossarms, etc., in Telephone Lines	9,727.41	$5,726.32	$2,000.00	$7,726.32	2,001.09
.00-46	Ties on Hetch Hetchy Railroad	25,376.98	15,255.14	2,500.00	17,755.14	7,621.84
.00-65	36 Beds, Springs, Mattresses	1,500.00	1,215.51	.....	1,215.51	284.49
.00-66	Replace Cottage at Lake Eleanor	32,000.00	126.52	28,100.00	28,226.52	3,773.48
.00-68	Miscellaneous Reconstruction Jobs	11,757.80	4,441.07	6,361.29	10,802.36	955.44
.00-75	Gates, Headwalls and Culverts, S.J.P.L.	1,070.00	.....	1,070.00	1,070.00	.....
.00-77	Battery Charging Set—Alameda East Portal	2,029.50	.....	2,029.50	2,029.50	.....
.00-78	Road Grader with Motor Patrol, Moccasin	11,000.00	1,650.13	9,000.00	10,650.13	349.87
.00-79	Portable 6 C.F. Non-Tilt Concrete Mixer	1,500.00	1,294.81	.....	1,294.81	205.19
.00-80	1937 International Pickup HH-18 with ½ ton Chevrolet Pickup	1,100.00	721.45	.....	721.45	378.55
.00-81	1941 Chevrolet Panel HH-3A with 1 ton Chevrolet	1,400.00	.....	764.60	764.60	635.40
.00-82	1940 Ford Pickup 1½ ton H-208A	1,500.00	674.87	.....	674.87	825.13
.00-83	1937 Ford Closed Cab Truck HH-17	2,200.00	.....	2,200.00	2,200.00	.....
.01-7	Damtender's Cottage, Moccasin	8,216.27	.....	.....	.....	8,216.27
.01-24	Priest Dam Spillway Flume	8,000.00	.....	.....	.....	8,000.00
.01-25	Cottage and Garage No. 33, Moccasin	7,338.16	.....	.....	.....	7,338.16
.01-27	Power Hack Saw	250.00	.....	.....	.....	250.00
.01-32	Anvil	100.00	.....	.....	.....	100.00
.01-37	Electric Range, Intake	150.00	.....	.....	.....	150.00

.01-43	Heating Unit, Moccasin Carpenter Shop	150.00	.....	.....	.....	150.00
.01-46	High Voltage Transformer Bushing	900.00	.....	.....	.....	900.00
.01-54.1	Foundations, Anchors and Generators—Moccasin Power House	366,000.00	111,271.77	252,946.80	364,218.57	1,781.43
.01-55	Poles, Crossarms, etc., in 22 KV Trans. Line	8,574.76	2,796.99	2,391.88	5,188.87	3,385.89
.01-57	Conductors and Devices, Overhead System 110 KV. Trans. Line	154.373.21	48,745.55	44,450.04	93,195.59	61,177.62
.01-58	Towers and Fixtures, Overhead System, 110 KV. Trans. Line	47,322.45	2,322.45	19,187.62	21,510.07	25,812.38
.01-61	General Overhaul Moccasin Power House	13,945.37	.....	.....	.....	13,945.37
.01-62	Reconstruction Turbine Early Intake Power House	2,659.04	.....	.....	.....	2,659.04
.01-67	Miscellaneous Reconstruction Jobs	3,963.65	1,154.58	2,461.08	3,615.66	347.99
.01-68	Replacement 1-inch Centrifugal Pump, Priest Dam Reservoir	350.00	.....	.....	.....	350.00
.01-75	Replacement Circuit Breaker Bushing—Moccasin	1,189.00	.....	.....	.....	1,189.00
.01-79	Swing Saw	1,200.00	.....	.....	.....	1,200.00
.01-80	Band Saw	1,000.00	.....	.....	.....	1,000.00
.01-82	Awnings, Moccasin Club House and Cottages	700.00	.....	700.00	700.00	.....
.01-83	Walls, Moccasin Cottages	995.00	.....	995.00	995.00	.....
.01-84	Reconstruction Present Living Quarters, Moccasin Store	7,150.00	.....	6,600.00	6,600.00	550.00
.01-85	Wood Drill, 1½-inch	400.00	.....	.....	.....	400.00
.01-86	Reconstruct Room on Cottage No. 23	6,050.00	.....	5,500.00	5,500.00	550.00
.01-87	Fluorescent Lights, Machine Shop	232.00	194.80	.....	194.80	37.20
.01-88	Replacement of Needle Tips and Seat Rings at Moccasin	10,000.00	601.94	9,238.75	9,840.69	159.31
.01-89	Replacement of Relaying Equipment in Mocccasin Bus Yard	41,160.72	.....	15,766.50	15,766.50	25,394.22
.01-91	Green House, Moccasin	1,015.00	.....	1,015.00	1,015.00	.....
.01-94	Ties and Trestles, Tramway, Moccasin	1,016.00	.....	1,016.00	1.016.00	.....
.01-96	1933 Dodge Truck 1½ ton HH-206	1,500.00	1,098.24	.....	1,098.24	401.76
.99	Completed Reconstruction and Replacement Projects	11,204.31	11,204.31	.....	11,204.31	.....
		$1,069,546.10	$210,496.45	$416,294.06	$626,790.51	$442,755.59
	Expenditures	210,496.45				
		$859,049.65				
	Warrants Outstanding	2,341.96				
	Treasurer's Balance	$861,391.61				

HETCH HETCHY WATER SUPPLY AND POWER PROJECT

STATEMENT OF HETCH HETCHY PROJECT OPERATING FUND APPROPRIATIONS

Period Ending June 30, 1947

Appropriation Number	Expenditures	Encumbrances	Unencumbered Balance of Allotments	Total Allotted To Date	Unallotted Balance of Appropriation	Reserve	Supplemental Appropriations and Transfers	Original Appropriation	Departmental Encumbrance Adjustment	Actual Unencumbered Balance of Allotments
W668.000.60.....	.....	.....	$12.35 F	$12.35	.....	.....	$12.35	.....	.....	$12.35
.110.00.....	$73,339.60	.....	.....	73,339.60	.....	.....	2,407.40 Dr.	$75,747.00	.....	.....
.111.00.....	485.69	.....	.....	485.69	.....	.....	.31 Dr.	486.00	.....	.....
.112.00.....	1,043.44	.....	.....	1,043.44	.....	.....	35.44	1,008.00	.....	.....
.120.00.....	1,154.62	.....	.....	1,154.62	.....	.....	1,820.38 Dr.	2,975.00	.....	.....
.199.00.....	.....	.....	2,452.65 C	2,452.65	.....	.....	2,452.65	.....	$2,452.65	.....
.200.00.....	1,976.51	$139.50	238.29 C	2,354.30	.....	.....	45.70 Dr.	2,400.00	164.29	74.00
.212.01.....	6,760.42	20,687.76	30,992.82 C	58,441.00	.....	.....	.....	58,441.00	15,238.05	15,754.77
.212.02.....	45,080.57	37,799.51	7,030.92 C	89,911.00	.....	.....	7,919.00 Dr.	97,830.00	7,030.92	.....
.212.03.....	10,601.08	10,590.00	558.92 C	21,750.00	.....	.....	570.00	21,180.00	386.12 Cr.	945.04
.202.04.....	5,778.27	4,810.00	231.73 C	10,820.00	.....	.....	.....	10.820.00	200.01	31.72
.300.00.....	592.98	397.27	9.75 C	1,000.00	.....	.....	.....	1,000.00	9.75	.....
.400.00.....	176.04	.....	573.96 C	750.00	.....	.....	.....	750.00	573.96	.....
.500.00.....	.....	.....	.....	.....	.....	.....	32,975.00 Dr.	32,975.00	.....	.....
.500.02.....	.....	9,000.00	.....	9,000.00	.....	.....	9,000.00	.....	.....	.....
.500.03–1.....	.....	825.00	12,175.00 F	13,000.00	.....	.....	13,000.00	.....	7,500.00	4,675.00
.500.03–2.....	.....	.....	10,000.00 F	10,000.00	.....	.....	10,000.00	.....	.....	10,000.00
.500.04.....	969.92	.....	5.08 C	975.00	.....	.....	975.00	.....	5.08	.....
.640.01.....	10,043.19	11,349.51	1,962.30 C	23,355.00	.....	.....	.....	23,355.00	1,757.36	204.94
.640.01–1.....	10,000.00	.....	.....	10,000.00	.....	.....	.....	10,000.00	.....	.....
.640.01–2.....	252.53	2,800.00	947.47 F	4,000.00	.....	.....	.....	4,000.00	465.01 Cr.	1,412.48
.801.00.....	20.91	500.00	479.09 C	1,000.00	.....	.....	.....	1,000.00	479.09	.....

.812.00.....	55.70	.....	.....	55.70	.....	.....	35.70	20.00	.....	.....
.813.00.....	.....	1,000.00	.....	1,000.00	.....	.....	.....	1,000.00	.....	.....
.814.00.....	.....	539.60	10.40 C	550.00	.....	.....	.....	550.00	10.40	.....
.855.00.....	30,000.00	.....	.....	30,000.00	.....	.....	.....	30,000.00	.....	.....
.870.00.....	21,745.61	.....	7.99 C	21,753.60	.....	.....	4,403.60	17,350.00	7.99	.....
.913.00.....	.....	.....	.....	.....	.....	.....	71,113.00 Dr.	71,113.00	.....	.....
.990.00.....	.....	.....	20,269.40 F	20,269.40	.....	.....	4,393.60 Dr.	24,663.00	.....	20,269.40
.999.00.....	120.00	.....	.....	120.00	.....	.....	120.00	.....	.....	.....
568.000.00.....	.....	.....	18,119.64 C	18,119.64	.....	.....	18,119.64	.....	18,119.64	.....
.000.99.....	88,565.75	.....	.....	88,565.75	.....	.....	88,565.75	.....	.....	.....
.211.00.....	.....	.....	800.00 F	800.00	.....	.....	800.00	.....	.....	800.00
.300.00.....	231.22	.....	3.02 C	234.24	.....	.....	234.24	.....	3.02	.....
Hetch Hetchy Water Supply.	$308,994.05	$100,438.15	$106,880.78	$516,312.98	.....	.....	$27,649.98	$488,663.00	$52,701.08	$54,179.70
W668.110.02.....	$101,296.00	.....	.....	$101,296.00	.....	.....	$6,490.00 Dr.	$107,786.00	.....	.....
.111.02.....	487.38	.....	.....	487.38	.....	.....	12.62 Dr.	500.00	.....	.....
.199.02.....	.....	.....	$5,844.62 C	5,844.62	.....	.....	5,844.62	.....	$5,844.62	.....
.200.02.....	2,587.23	$12,438.31	1,074.46 C	16,100.00	.....	.....	5,800.00	10,300.00	1,354.55	$280.09 Dr.
.300.02.....	1,056.84	175.66	167.50 C	1,400.00	.....	.....	.....	1,400.00	167.50	.....
.400.02.....	581.35	2,666.90	122.75 C	3,371.00	.....	.....	.....	3,371.00	122.75	.....
.812.02.....	14.88	.....	90.12 C	105.00	.....	.....	.....	105.00	90.12	.....
568.000.02.....	.....	.....	362.13 C	362.13	.....	.....	362.13	.....	362.13	.....
.111.02.....	36.74	.....	.....	36.74	.....	.....	36.74	.....	.....	.....
.200.02.....	200.16	.....	.....	200.16	.....	.....	200.16	.....	.....	.....
.300.02.....	66.83	.....	.43 C	67.26	.....	.....	67.26	.....	.43	.....
Bureau of Engineering.....	$106,327.41	$15,280.87	$7,662.01	$129,270.29	.....	.....	$5,808.29	$123,462.00	$7,942.10	$280.09 Dr.
Total Sheet No. 1.....	$415,321.46	$115,719.02	$114,542.79	$645,583.27	.....	.....	$33,458.27	$612.125.00	$60,643.18	$53,899.61

HETCH HETCHY WATER SUPPLY AND POWER PROJECT

STATEMENT OF HETCH HETCHY PROJECT OPERATING FUND APPROPRIATIONS

Period Ending June 30, 1947

Appropriation Number	Expenditures	Encumbrances	Unencumbered Balance of Allotments	Total Allotted To Date	Unallotted Balance of Appropriation	Reserve	Supplemental Appropriations and Transfers	Original Appropriation	Departmental Encumbrance Adjustment	Actual Unencumbered Balance of Allotments
668.991.00	$140,064.57	$20,624.08	$147,120.43 F	$307,809.08	.....	.....	$307,809.08	.....	.....	$147,120.43
668.991.52	2,334.99	.....	465.01 F	2,800.00	.....	.....	2,800.00	.....	.....	465.01
668.992.00	227,680.70	16,017.82	61,632.24 F	305,330.76	.....	.....	305,330.76	.....	.....	61,632.24
668.992.50	10.290.75	.....	1,709.25 F	12,000.00	.....	.....	12,000.00	.....	.....	1,709.25
668.992.51	15,849.17	4,099.36	8,151.47 F	28,100.00	.....	.....	28,100.00	.....	.....	8,151.47
568.991.00	64,852.47	248.66	398.87 F	65,500.00	.....	.....	65,500.00	.....	.....	398.87
.992.00	780.11	.....	914.89 F	1,695.00	.....	.....	1,695.00	.....	.....	914.89
168.991.00	.....	.....	4,950.00 F	4,950.00	.....	.....	4,950.00	.....	.....	4,950.00
Interdepartmental Appropr't'n	$461.852.76	$40,989.92	$225,342.16	$728,184.84	.....	.....	$728,184.84	.....	.....	$225,342.16
668.996.10	.....	.....	$7,697.90 F	$7,697.90	.....	.....	$7,697.90	.....	.....	$7,697.90
.11	.....	.....	6,317.25 F	6,317.25	.....	.....	6,317.25	.....	.....	6,317.25
.13	.....	3,500.00	13,234.06 F	16,734.06	.....	.....	16,734.06	.....	.....	13,234.06
Reserves	.....	$3,500.00	$27,249.21	$30,749.21	.....	.....	$30,749.21	.....	.....	$27,249.21
Total H.H.W.S. Interdepartmental and Reserves	$461,852.76	$44,489.92	$252,591.37	$758,934.05	.....	.....	$758,934.05	.....	.....	$252,591.37
P668.110.01	$146,205.60	.....	.....	$146,205.60	.....	.....	$3,154.40 Dr.	$149,360.00	.....	.....
.111.01	1,540.21	.....	.....	1,540.21	.....	.....	255.79 Dr.	1,796.00	.....	.....
.112.01	2,725.96	.....	.....	2,725.96	.....	.....	1,066.04 Dr.	3,792.00	.....	.....
.120.01	4,498.19	.....	.....	4,498.19	.....	.....	5,851.81 Dr.	10,350.00	.....	.....
.199.01	.....	.....	$8,484.04 C	8,484.04	.....	.....	8,484.04	.....	$8,484.04	.....
.200.01	7,466.87	$871.61	3,501.43 C	11,839.91	.....	.....	460.09 Dr.	12,300.00	3,718.19	$216.76 Dr.
.200.01–1	761.30	1,091.00	6,118.70 C	7,971.00	.....	.....	.....	7,971.00	5,027.70	1,091.00
.200.01–2	.....	18,923.00	391.00 C	19,314.00	.....	.....	391.00	18,923.00	1,883.63 Cr.	2,274.63
.200.01–3	11,515.96	16,638.00	5,122.04 C	33,276.00	.....	.....	.....	33,276.00	5,122.04	.....

.200.01–4.....	249.00	1,117.00	869.00 C	2,235.00	.....	.....	.....	2,235.00	822.19	46.81
.231.01–1.....	77,117.74	22,882.26	40,000.00 C	140,000.00	.....	.....	40,000.00	100,000.00	40,000.00	.....
.231.01–2.....	713,782.54	69,217.46	.....	783,000.00	.....	.....	17,000.00	766,000.00	.....	.....
.300.01.....	4,118.48	501.23	330.29 C	4,950.00	.....	.....	1,750.00	3,200.00	23.95 Cr.	354.24
.350.01.....	10,622.65	.....	1,567.35 C	12,190.00	.....	.....	5,900.00	6,290.00	1,567.35	.....
.399.01.....	21,884.21	12,775.68	10,340.11 F	45,000.00	.....	.....	35,000.00	10,000.00	.....	10,340.11
.400.01.....	.....	.....	400.00 F	400.00	.....	.....	.....	400.00	.....	400.00
.500.01.....	.....	.....	15,000.00 F	15,000.00	.....	.....	2,350.00 Dr.	17,350.00	.....	15,000.00
.500.01–1.....	.....	1,500.00	.....	1,500.00	.....	.....	1,500.00	.....	.....	.....
.500.01–2.....	.....	.....	500.00 F	500.00	.....	.....	500.00	.....	.....	500.00
.500.01–3.....	.....	350.00	.....	350.00	.....	.....	350.00	.....	.....	.....
.801.01.....	394.59	500.00	105.41 C	1,000.00	.....	.....	.....	1,000.00	105.41	.....
.812.01.....	35.29	.....	14.71 C	50.00	.....	.....	.....	50.00	14.71	.....
.813.01.....	.....	300.00	.....	300.00	.....	.....	.....	300.00	.....	.....
.880.01.....	30.00	.....	.....	30.00	.....	.....	.....	30.00	.....	.....
.880.02.....	53,999.88	.....	.12 C	54,000.00	.....	.....	.....	54,000.00	.12	.....
.913.01.....	.....	.....	.....	.....	.....	.....	526,342.00 Dr.	526,342.00	.....	.....
.990.01.....	.....	.....	7,548.00 F	7,548.00	.....	.....	.....	7,548.00	.....	7,548.00
568.000.01.....	.....	.....	10,042.55 C	10,042.55	.....	.....	10,042.55	.....	10,042.55	.....
.000.01–99.....	75,755.98	.....	.....	75,755.98	.....	.....	75,755.98	.....	.....	.....
Hetch Hetchy Power Division	$1,132,704.45	$146,667.24	$110,334.75	$1,389,706.44	.....	.....	$342,806.56 Dr.	$1,732,513.00	$72,996.72	$37,338.03
Hetch Hetchy W. S. Interdepartmental and Reserves...	$461,852.76	$44,489.92	$252,591.37	$758,934.05	.....	.....	$758,934.05	.....	.....	$252,591.37
Total Sheet No. 1.....	$415,321.46	$115,719.02	$114,542.79	$645,583.27	.....	.....	$33,458.27	$512,125.00	$60,643.18	$53,899.61
Grand Total H. H. Project Operating Fund	$2,009,878.67	$306,876.18	$477,468.91	$2,794,223.76	.....	.....	$449,585.76	$2,344,638.00	$133,639.90	$343,829.01
Closed to Unappropriated....	.....	.....	$144,885.21	$144,885.21	.....	.....	.....	.....	.....	.....
Reserve for Adjustment ...	.....	.....	2,000.00	2,000.00	.....	.....	.....	.....	.....	.....
Forward to 1947-48.....	$483,736.97	$306,876.18	$330,583.70	1,121,196.85	.....	.....	.....	.....	.....	.....
Final Total H.H.P.O. Fund..	$1,526,141.70	.....	.....	$1,526,141.70	.....	.....	.....	.....	.....	.....

1932 HETCH HETCHY BOND FUND APPROPRIATIONS

Period Ended June 30, 1947

Appropriation Number		Appropriated	Expenditures	Encumbrances	Total Expenditures and Encumbrances	Unencumbered Balance of Appropriation
92.000.00	Unappropriated Balance of Funds	$96,693.83	.....	.....	.....	$96,693.83
.234.7/2	Possible Future Expense in Connection with Industrial Cases	2,000.00	$1,406.71	$25.00	$1,431.71	568.29
.235.01	Balance—General and Miscellaneous	16.66	.....	.....	.....	16.66
.298.00	Possible Future Expense with State Sales Tax on Sales Hetch Hetchy Construction Equipment	3,500.00	3,364.69	.....	3,364.69	135.31
.500.38	Debris Deflector, Lower Cherry Diversion Dam	2,000.00	262.15	.....	262.15	1,737.85
.500.50	Surveys, Studies and Preliminary Plans for Dams, Aqueducts and other Features of Cherry River Development	100,000.00	98,266.40	.....	98,266.40	1,733.60
.500.51	Preliminary Investigations, Surveys and Improvements, Cherry River Development Project	100,000.00	40,241.68	27,207.39	67,449.07	32,550.93
.500.57	Purchase and Installation of Equipment in connection with Contract with Modesto and Turlock Irrigation Districts	82,000.00	37,211.49	25,193.15	62,404.64	19,595.36
.500.58	Acquisition of Land for Connection between Hetch Hetchy Transmission Line and Modesto Irrigation District Power System	1,000.00	599.44	250.00	849.44	150.56
.604.09	Expenses Incurred Resisting Claims on Riparian Owners and Land Damage Claims	2,859.09	.....	.....	.....	2,859.09
		$390,069.58	$181,352.56	$52,675.54	$234,028.10	$156,041.48
	Expenditures	181,352.56				
		$208,717.02				
	Warrants Outstanding	1,785.41				
	Treasurer's Balance	$210,502.43				

HETCH HETCHY WATER SUPPLY AND POWER PROJECT
STATEMENT OF HETCH HETCHY PROJECT OPERATING FUND APPROPRIATIONS
Period Ending June 30, 1947

Appropriation Number	Expenditures	Encumbrances	Unencumbered Balance of Allotments	Total Allotted To Date	Unallotted Balance of Appropriation	Reserve	Supplemental Appropriations and Transfers	Original Appropriation	Departmental Encumbrance Adjustment	Actual Unencumbered Balance of Allotments
W668.231.00	$43.91	.....	$106.09	$150.00	.....	.....	.....	$150.00	.....	$106.09
.800.01	2,248,962.50	.....	.50	2,248,963.00	.....	.....	.....	2,248,963.00	.....	.50
.800.02	2,225,000.00	.....	.....	2,225,000.00	.....	.....	.....	2,225,000.00	.....	.....
.860.00	2,438.15	.....	1,348.85	3,787.00	.....	.....	.....	3,787.00	$1,322.76	26.09
.900.03	.....	.....	1,450.00	1,450.00	.....	.....	.....	1,450.00	.....	1,450.00
.900.04	42,534.00	.....	.....	42,534.00	.....	.....	.....	42,534.00	.....	.....
568.231.00	91.44	.....	.....	91.44	.....	.....	$91.44	.....	.....	.....
.860.00	1,564.72	.....	268.26	1,832.98	.....	.....	1,832.98	.....	.....	268.26
.900.03	956.25	.....	.....	956.25	.....	.....	956.25	.....	.....	.....
Hetch Hetchy Water	$4,521,590.97	.....	$3,173.70	$4,524,764.67	.....	.....	$2,880.67	$4,521,884.00	$1,322.76	$1,850.94
W668.860.02	$1,155.37	.....	$4,729.63	$5,885.00	.....	.....	.....	$5,885.00	$3,421.58	$1,308.05
568.860.02	2,590.90	.....	1.86	2,592.76	.....	.....	2,592.76	.....	.....	1.86
Bureau of Engineering	$3,746.27	.....	$4,731.49	$8,477.76	.....	.....	$2,592.76	$5,885.00	$3,421.58	$1,309.91
W568.860.79	$98.08	.....	.....	$98.08	.....	.....	$98.08	.....	.....	.....
War Emergency	$98.08	.....	.....	$98.08	.....	.....	$98.08	.....	.....	.....
P668.231.01	$141.15	.....	$33.85	$175.00	.....	.....	$50.00	$125.00	$10.34	$23.51
.860.01	1,694.27	.....	6,867.73	8,562.00	.....	.....	.....	8,562.00	5,122.43	1,745.30
.900.01	42,533.00	.....	.....	42,533.00	.....	.....	.....	42,533.00	.....	.....
900.01-3	.....	.....	1,775.00	1,775.00	.....	.....	.....	1,775.00	1,775.00	.....
568.231.01	18.43	.....	.....	18.43	.....	.....	18.43	.....	.....	.....
.860.01	4,370.15	.....	5.68 Dr.	4,364.47	.....	.....	4,364.47	.....	.....	5.68 Dr.
.900.01-3	1,168.75	.....	.....	1,168.75	.....	.....	1,168.75	.....	.....	.....
Hetch Hetchy Power Division	$49,925.75	.....	$8,670.90	$58,596.65	.....	.....	$5,601.65	$52,995.00	$6,907.77	$1,763.13
Total Transfers	$4,575,361.07	.....	$16,576.09	$4,591,937.16	.....	.....	$11,173.16	$4,580,764.00	$11,652.11	$4,923.98
Closed to Unappropriated	.....	.....	$4,923.98	$4,923.98	.....	.....	.....	.....	.....	.....
Forward to 1947-48	.....	.....	11,652.11	11,652.11	.....	.....	.....	.....	.....	.....
Final Total	$4,575,361.07	.....	.....	$4,575,361.07	.....	.....	.....	.....	.....	.....

EXHIBIT A

PROPRIETARY BALANCE SHEET

June 30, 1947

ASSETS AND OTHER DEBITS

Utility Plant

Electric Plant:		
In Service, Hydraulic Production Plant (Schedule No. 1)	$8,610,905.58	
In Service, Transmission Plant (Schedule No. 1)	2,648,427.61	
In Service, Distribution Plant (Schedule No. 1)	3,848.10	
In Service, General Plant (Schedule No. 1)	1,160,333.83	
	$12,423,515.12	
Less Reserve for Depreciation Electric Plant (Schedule No. 1)	5,716,406.70	
Remainder, Depreciated Value		$6,707,108.42

Current and Accrued Assets

Cash on Deposit with Treasurer:		
Hetch Hetchy Project Operating Fund	$137,201.39	
Reconstruction and Replacement Fund (Schedule No. 2)	655,828.27	$793,029.66
Working Funds:		
Hetch Hetchy Power Revolving Fund		4,000.00
Cash in Transit		1,263.64
Accounts Receivable		131,512.06

LIABILITIES AND OTHER CREDITS

Long Term Debt

Bonds, Municipality:		
Due July 1, 1947 to July 1, 1977		$5,570,900.00

Current and Accrued Liabilities

Accounts Payable:		
General Creditors	$80,684.97	
Commitments (Contra)	214,722.96	$295,407.93
Payable to Municipality:		
Interfund Accounts, P.S.E. San Francisco Water Department	$474.91	
Public Utilities Commission	10.34	485.25
Interfund Accounts, General City and County:		
Employees' Retirement System	$5,130.58	
General Fund	145.76	5,276.34
Total Current and Accrued Liabilities		$301,169.52

Receivables from Municipality:		
Interfund Accounts, P.S.E. Public Utilities Commission		169,828.16
Interfund Accounts—General City and County Recreation Department		505.11
Prepaid Expenses—Public Utilities Commission		546.70
Material and Supplies		27,129.52
Total Current and Accrued Assets		$1,127,814.85

Deferred Debits

Cash Withheld by Hetch Hetchy Water Supply for Work Encumbered but not yet Performed		$3,056.17
Suspense Debits: U. S. Navy Accident Claim		13,596.72
Commitments (Contra)		214,722.96
Work in Progress:		
Retirement Work in Progress	$184,048.45	
Other Work in Progress	1,570.62	185,619.07
Total Deferred Debits		$416,994.92
Total Assets ond Other Debits		8,251,918.19

Deferred Credits

Stores Clearing Account	$2.20
Total Deferred Credits	$2,20
Total Liabilities	$5,872,071.72

Surplus

Surplus (Exhibit "C")	$2,379,846.47
Total Liabilities and Other Credits	$8,251,918.19

HETCH HETCHY POWER DIVISION
EXHIBIT B
June 30, 1947
COMPARATIVE INCOME STATEMENT
Fiscal Year Ended June 30, 1946, June 30, 1947 and Period August 16, 1925 to June 30, 1947

Utility Operating Income	Fiscal Year Ended June 30, 1947	Fiscal Year Ended June 30,1946	Period August 16, 1925 to June 30, 1947
Operating Revenue:			
Moccasin Power House:			
Pacific Gas and Electric Co.	.....	.....	$40,958,438.73
Aluminum Company of America	.....	.....	3,175,983.50
	.....	.....	$44,134,422.23
Construction, Operating and Miscellaneous	.....	.....	612,263.63
	.....	.....	$44,746,685.86
Early Intake Power House:			
Pacific Gas and Electric Co.	.....	.....	$1,261,162.81
Aluminum Company of America	.....	.....	65,533.50
	.....	.....	$1,326,696.31
Construction, Operating and Miscellaneous	.....	.....	98,753.48
	.....	.....	$1,425,449.79
Sales of Electric Energy:			
Commercial and Industrial Sales	$964,681.77	$739,956.99	$1,704,638.76
Public Street and Highway Lighting	406,946.11	401,742.12	808,688.23
Other Sales to Public Authorities	513,175.99	520,355.08	1,033,531.07
Sales to Other Electric Utilities	330,124.67	286,089.55	616,214.22
Sales to Railroads and Railways	1,103,041.95	1,109,716.29	2,212,758.24
Other Sales	1,034.27	809.77	1,844.04
Total Sales of Electric Energy	$3,319,004.76	$3,058,669.80	$52,549,810.21
Other Electric Revenues	18,352.89	8,365.42	26,718.31
	$3,337,357.65	$3,067,035.22	$52,576,528.52
Operating Revenue Deductions:			
Operating Expenses:			
Production Expenses	$160,367.78	$139,508.92	$3,230,054.20
Purchase of Water for Power	813,137.00	735,474.00	5,225,981.00
Purchased Power	87,117.74	19,199.46	792,569.86
Transmission Expenses	46,851.21	45,219.59	691,676.32
Distribution Expenses	840,260.11	853,701.22	1,698,196.97
Civilian Defense Protection of Property	.....	1,870.52	57,834.96
Administrative and General Expenses	79,742.59	59,847.10	1,182,710.55
Total Operating Expenses	$2,027,476.43	$1,854,820.81	$12,879,023.86
Rents (General)	.....	.....	3.00
Depreciation Expenses	306,552.18	300,879.77	6,684,527.66
Taxes	.....	.....	61,186.46
Rents (Power Proportion Raker Act)	.....	.....	228,500.00
Total Operating Revenue Deductions	$2,334,028.61	$2,155,700.58	$19,853,240.98
Net Operating Revenues	$1,003,329.04	$911,334.64	$32,723,287.54
Other Income			
Miscellaneous Non-Operating Income	.....	.....	491,948.09
Gross Income	$1,003,329.04	$911,334.64	$33,215,235.63
Income Deductions			
Interest on Long-Term Debt	$259,141.41	$271,010.15	$6,855,384.83
Valuation of Property	.....	.....	4,932.12
Preliminary Investigations and Surveys, Distribution of Power by City	.....	.....	13,659.17
Total Income Deductions	$259,141.41	$271,010.15	$6,873,976.12
Net Income Transferred to Surplus	$744,187.63	$640,324.49	$26,341,259.51

HETCH HETCHY POWER DIVISION
EXHIBIT C
SURPLUS ACCOUNT
For Twelve Months Ended June 30, 1947

Surplus, June 30, 1946	$1,443,379.71

CHANGES IN SURPLUS DURING 1946-47

Additions:	
Adjustment of Contribution to Hetch Hetchy Water Supply for Bond Interest and Redemption	$187,800.00
Miscellaneous Additions to Surplus:	
Refund of Expenses for 1945-46—Public Utilities Commission	447.54
Refund of Expenses for Prior Years—U. S. Navy	408.30
Claim Paid by U. S. Navy re: Accident to Transmission Lines Prior Years—Charged to Hetch Hetchy Power Expense	13,596.72
Profit over Book Value on Sale of Dodge 1½ ton Truck No. 206	86.00
Net Earnings from Power Operations—Year Ending June 30, 1947	744,187.63
	$946,526.19
Deductions:	
Contributions to Hetch Hetchy Water Supply for Equipment, etc. (Net)	$10,049.72
Miscellaneous Deductions from Surplus—Write Off of Uncollectible Accounts Receivable	9.71
	$10,059.43
Surplus, June 30, 1947	$2,379,846.47

COMPOSITION OF SURPLUS

June 30, 1947

Additions to Surplus:		
Net Earnings from Power Operations, August 16, 1925 to June 30, 1947		$26,341,259.51
Contributions from 1932 Hetch Hetchy Bond Fund for Four Cottages, Early Intake, and Sectionalizing Switches and Metering Equipment and Telephone Line, Riverbank		50.278.97
Contributions from San Francisco Water Department for Reconstruction and Replacements		1,228.59
Miscellaneous Additions to Surplus		26,345.60
		$26,419,112.67
Deductions from Surplus:		
Contributions to Hetch Hetchy Water Supply for Bond Interest and Redemption	$23,284,425.46	
Contributions to Hetch Hetchy Water Supply for Reconstruction and Replacements	361,702.31	
California Railroad Commission Evaluation of Pacific Gas & Electric Company's San Francisco Properties	392,006.43	
Contributions to 1932 Hetch Hetchy Bond Fund for Sale of Two Steel Transmission Towers	250.00	
Miscellaneous Deductions from Surplus	882.00	
		$24,039,266.20
Surplus, June 30, 1947		$2,379,846.47

HETCH HETCHY POWER DIVISION

EXHIBIT D
DETAIL OF OPERATING EXPENSE
June 30, 1947

		July 1, 1946 to June 30, 1947	July 1, 1945 to June 30, 1946
	PRODUCTION		
	OPERATION		
6000	Superintendence	$13,410.49	$14,403.58
6010	Station Labor	86,197.20	74,517.00
6015	Miscellaneous Labor	8,299.09	6,213.84
6020	Supplies and Expenses	29,057.31	22,939.13
6030	Contributions to Retirement System	5,278.91	4,974.71
		$142,243.00	$123,048.26
6040	Purchase of Water for Power	$813,137.00	$735,474.00
6100	Purchased Power	$87,117.74	$19,199.46
	MAINTENANCE		
6050	Structures	$4,608.76	$7,193.69
6055	Reservoirs, Dams and Intakes	.....	343.35
6065	Forebays, Penstocks and Tailraces	2,478.49	1,943.85
6075	Hydraulic Power Plant Equipment	9,771.98	5,886.91
6080	Miscellaneous Power Plant Equipment	1,265.55	1,092.86
		$18,124.78	$16,460.66
	Total Production Expenses	$1,060,622.52	$894,182.38

		July 1, 1946 to June 30, 1947	July 1, 1945 to June 30, 1946
	DISTRIBUTION		
	OPERATION		
6300	Supervision and Engineering	$6,914.32	$7,377.95
6305	Contributions to Retirement System	276.21	124.00
		$7,190.53	$7,501.95
	MAINTENANCE		
6350	General	$1,319.19	.....
6350-A	Line Extensions	.....	.....
6350-B	Meters and Transformers	.....	$240.00
6350-C	Capacitors	.....	34.94
		$1,319.19	$274.94
	MISCELLANEOUS		
6390	Wheeling Charges	$777,750.51	$791,924.45
6395	Line Rentals	53,999.88	53,999.88
		$831,750.39	$845,924.33
	Total Distribution Expenses	$840,260.11	$853,701.22

TRANSMISSION

OPERATION

6200	Superintendence	$7,379.18	$6,304.21
6205	Substation Labor	9,094.63	7,425.20
6215	Transmission Lines Labor	1,088.04	12,950.84
6220	Supplies and Expenses	910.28	933.37
6225	Contributions to Retirement System	758.94	1,210.52
		$19,231.07	$28,824.14

MAINTENANCE

6250	Transmission Structures	$26.17	$184.07
6255	Substation Equipment	3,135.67	1,849.34
6260	Towers and Fixtures	1,316.90	610.82
6265	Tower Line Conductors	2,200.25	1,173.57
6270	Poles and Fixtures	19,811.29	12,131.39
6275	Pole Line Conductors	31.56	335.25
6285	Miscellaneous	1,068.30	81.01
		$27,590.14	$16,365.45

MISCELLANEOUS

6290	Transmission Rents	30.00	$30.00
	Total Transmission Expenses	$46,851.21	$45,219.59

WAR EMERGENCY

PROTECTION OF PROPERTY

7999	Protection of Property	.....	$1,870.52
	Total War Emergency Expenses	.....	$1,870.52

ADMINISTRATIVE AND GENERAL

8000	Salaries and Wages	$11,611.66	$6,794.31
8005	Contributions to Retirement System	502.64	292.62
8010	Services of Other Departments	60,984.42	48,267.94
8015	Professional Services	1,350.02	1,168.75
8020	Stationery, Office Supplies and Postage	681.73	548.34
8021	Sundry Office Expense	200.78	86.75
8025	Telephone and Telegraph	304.71	258.30
8030	Traveling and Other Expenses	538.59	534.15
8031	Hetch Hetchy Cottages	2,905.12	1,658.13
8035	Insurance	35.29	40.00
8040	Injuries and Damages	424.51	12.51
8051	Automobile Insurance Premiums	203.12	168.57
8095	Miscellaneous	.....	16.73
	Total Administrative & Gen. Exp.	$79,742.59	$59,847.10

FIXED CHARGES

9000	Interest Expenses	$259,141.41	$271,010.15
9050	Depreciation Expense	306,552.18	300,879.77
	Total Fixed Charges	$565,693.59	$571,889.92

HETCH HETCHY POWER DIVISION

EXHIBIT E

COMPARISON OF ACTUAL REVENUES AND EXPENSES WITH BUDGET ESTIMATES

Fiscal Year 1946-1947

EXPENDITURES	Fiscal Year 1946-1947 Budget and Modifications	Month of June, 1947 — Budget and Modifications	Month of June, 1947 — Expenses Revenues Accruals	Month of June, 1947 — Increase or Decrease	Twelve Months to June 30, 1947 — Budget and Modifications	Twelve Months to June 30, 1947 — Expenses Revenues Accruals	Twelve Months to June 30, 1947 — Increase or Decrease
Production Expense:							
Operation	$141,270.00	$11,772.50	$12,047.57	*$275.07*	$141,270.00	$142,243.00	*$973.00*
Maintenance	26,894.00	2,241.16	2,171.34	69.82	26,894.00	18,124.78	8,769.22
Water for Power	813,137.00	67,761.42	67,761.42	.....	813,137.00	813,137.00	.....
Purchased Power	100,000.00	8,333.33	10,000.00	*1,666.67*	100,000.00	87,117.74	12,882.26
Total Production Expenses	$1,081,301.00	$90,108.41	$91,980.33	*$1,871.92*	$1,081,301.00	$1,060,622.52	$20,678.48
Transmission Expenses:							
Operation	$22,794.00	$1,899.50	$1,765.55	$133.95	$22,794.00	$19,231.07	$3,562.93
Maintenance	33,276.00	2,773.00	7,238.95	*4,465.95*	33,276.00	27,620.14	5,655.86
Total Transmission Expenses	$56,070.00	$4,672.50	$9,004.50	*$4,332.00*	$56,070.00	$46,851.21	$9,218.79
Distribution Expenses:							
Operation	$9,327.00	$777.25	$673.97	$103.28	$9,327.00	$7,190.53	$2,136.47
Maintenance	2,235.00	186.25	162.24	24.01	2,235.00	1,319.19	915.81
Wheeling Charges	766,000.00	63,833.33	63,967.97	*134.64*	766,000.00	777,750.51	*11,750.51*
Rental of Transmission Line	54,000.00	4,500.00	4,499.99	.01	54,000.00	53,999.88	.12
Total Distribution Expenses	$831,562.00	$69,296.83	$69,304.17	*$7.34*	$831,562.00	$840,260.11	*$8,698.11*

Administrative and General Expense	93,941.00	$7,828.42	$8,911.87	*$1,083.45*	$93,941.00	$79,742.59	$14,198.41
Total Operating Expense	$2,062,874.00	$171,906.16	$179,200.87	*$7,294.71*	$2,062,874.00	$2,027,476.43	$35,397.57
Fixed Charges:							
Stores Revolving Fund	$10,000.00	$833.33	$833.33	.....	$10,000.00	$10,000.00	.....
Bond Redemption	258,100.00	21,508.33	21,508.33	.....	258,100.00	258,100.00	.....
Bond Interest	259,141.00	21,595.09	21,595.09	.....	259,141.00	259,141.00	.....
Total Fixed Charges	$527,241.00	$43,936.75	$43,936.75	.....	$527,241.00	$527,241.00	.....
Replacement of Equipment	$400.00	$33.33	$33.33	.....	$400.00	$400.00	.....
Current Reconstruction and Replacement	$526,342.00	43,861.83	43,861.83	.....	526,342.00	526,342.00	.....
Additions and Betterments	17,350.00	1,445.84	1,445.84	.....	17,350.00	17,350.00	.....
Surplus	7,548.00	629.00	629.00	.....	7,548.00	7,548.00	.....
Total Expenditures	$3,141,755.00	$261,812.91	$269,107.62	*$7,294.71*	$3,141,755.00	$3,106,357.43	$35,397.57

RECEIPTS

Revenue:							
Sale of Power	$3,128,755.00	$260,729.58	$275,779.88	$15,050.30	$3,128,755.00	$3,319,004.76	$190,249.76
Other Revenues	13,000.00	1,083.33	2,068.14	984.81	13,000.00	18,352.89	5,352.89
Total Revenue	$3,141,755.00	$261,812.91	$277,848.02	$16,035.11	$3,141,755.00	$3,337,357.65	$195,602.65
Net Savings Over Budget Estimate				$8,740.40			$231,000.22

Italic figures denote loss and deficiency.

HETCH HETCHY POWER DIVISION
SCHEDULE No. 1
ELECTRIC PLANT IN SERVICE
June 30, 1947

		Balance June 30, 1946	Gross Additions July 1, 1946 June 30, 1947	Retirements July 1, 1946 June 30, 1947	Adjustments July 1, 1946 June 30, 1947	Balance June 30, 1947	Accrued Depreciation June 30, 1947
1001-A	HYDRAULIC PRODUCTION PLANT						
320	Land and Land Rights	$53,903.00	.....	.....	.....	$53,903.00	.....
321	Structures and Improvements	842,451.00	$6,267.30	$6,267.30	.....	842,451.00	$320,714.23
322	Reservoirs, Dams and Waterways	6,609,814.25	882.81	464.51	.....	6,610,232.55	2,435,346.02
323	Waterwheels, Turbines and Generators	936,307.63	.....	.....	.....	936,307.63	624,322.35
324	Accessory Electric Equipment	128,669.00	.....	.....	.....	128,669.00	100,005.76
325	Miscellaneous Power Plant Equipment	19,139.40	.....	.....	.....	19,139.40	14,944.66
326	Roads, Railroads and Bridges	20,203.00	.....	.....	.....	20,203.00	.....
		$8,610,487.28	$7,150.11	$6,731.81	.....	$8,610,905.58	$3,495,333.02
1001-B	TRANSMISSION PLANT						
340	Land and Land Rights	$49,677.00	.....	.....	.....	$49,677.00	.....
341	Clearing Lands and Rights of Way	38,212.00	.....	.....	.....	38,212.00	.....
342	Structures and Improvements	18,880.00	.....	.....	.....	18,880.00	$9,720.56
343	Station Equipment	578,543.20	.....	.....	.....	578,543.20	371,157.21
344	Towers and Fixtures	871,432.00	$6,557.43	$6,557.43	.....	871,432.00	469,660.34
345	Poles and Fixtures	39,232.00	1,682.97	1,682.97	.....	39,232.00	39,232.00
346	Overhead Conductors and Devices	1,050,679.41	24,844.97	24,844.97	.....	1,050,679.41	882,881.55

347	Underground Conduit	657.00	.....	.....	.....	657.00	578.52
348	Underground Conductors and Devices	1,115.00	.....	.....	.....	1,115.00	752.35
349	Roads and Trails	.....	.....	.....	.....	.....	.....
		$2,648,427.61	$33.085.37	$33,085.37	.....	$2,648,427.61	$1,773,982.53
1001-B-1	DISTRIBUTION PLANT						
360	Meters	$3,848.10	.....	.....	.....	$3,848.10	$615.68
1001-C	GENERAL PLANT						
370	Land and Land Rights	$1,128.00	.....	.....	.....	$1.128.00	.....
371	Structures and Improvements	726,986.43	$1,407.90	$437.98	.....	727,956.35	$392,056.56
372	Office Furniture and Equipment	3,613.23	310.77	.....	.....	3,924.00	3,541.73
373	Transportation Equipment	14,768.20	1,373.24	945.00	.....	15,196.44	11,787.75
375	Shop Equipment	31,963.27	118.06	.....	.....	32,081.33	24,495.30
377	Tools and Work Equipment	4,746.41	.....	.....	.....	4,746.41	4,400.10
378	Communication Equipment	548.65	.....	.....	.....	548.65	82.35
379	Miscellaneous Equipment	10,603.95	742.86	.....	.....	11,346.81	10,111.68
395	Unclassified	363,405.84	.....	.....	.....	363,405.84	.....
		$1,157,763.98	$3,952.83	$1,382.98	.....	$1,160,333.83	$446,475.47
		$12,420,526.97	$44,188.31	$41,200.16	.....	$12,423,515.12	$5,716,406.70
	See Schedule		1A	1A			1B

SCHEDULE No. 1-A
HETCH HETCHY POWER DIVISION
Gross Additions July 1, 1946 to June 30, 1947

1001-A	HYDRAULIC PRODUCTION PLANT			
	321 STRUCTURES AND IMPROVEMENTS			
	Investigation of Moccasin Power House Foundations			$6,267.30
	322 RESERVOIRS, DAMS AND WATERWAYS			
	Replace Wooden Spillway with 42 inch Steel Pipe, Spillway E—Intake		$464.51	
	Fluid Flow Meter for testing Needle Tips and Seat Rings		418.30	882.81
1001-B	TRANSMISSION PLANT			
	344 TOWERS AND FIXTURES			
	Towers and Fixtures—110 KV Transmission Line			6,557.43
	345 POLES AND FIXTURES			
	Poles and Fixtures—22 KV Transmission Line			1,682.97
	346 OVERHEAD CONDUCTORS AND DEVICES			
	Conductors and Devices—110 KV Transmission Line			24,844.97
1001-C	GENERAL PLANT			
	371 STRUCTURES AND IMPROVEMENTS			
	Fluorescent Lights—Moccasin Machine Shop		$437.98	
	Lumber Shed——Moccasin Carpenter Shop		969.92	1,407.90
	372 OFFICE FURNITURE AND EQUIPMENT			
	Underwood 12 inch Typewriter—Moccasin		$177.93	
	Royal Typewriter 18 inch—Moccasin		132.84	310.77
	373 TRANSPORTATION EQUIPMENT			
	Chevrolet 1-ton Pickup Truck No. 206A			1,373.24
	375 SHOP EQUIPMENT			
	Connecting Rod Aligner—Moccasin Machine Shop			118.06
	379 MISCELLANEOUS EQUIPMENT			
	22 Springs and Mattresses			742.86
	Total Gross Additions			$44,188.31

Retirements July 1, 1946 to June 30, 1947

1001-A	HYDRAULIC PRODUCTION PLANT	
	321 STRUCTURES AND IMPROVEMENTS	
	Investigation of Moccasin Power House Foundations	$6,267.30
	322 RESERVOIRS, DAMS AND WATERWAYS	
	Wooden Spillway E—Intake	464.51
1001-B	TRANSMISSION PLANT	
	344 TOWERS AND FIXTURES	
	Towers and Fixtures—110 KV Transmission Line	6,557.43
	345 POLES AND FIXTURES	
	Poles and Fixtures—22 KV Transmission Line	1,682.97
	346 OVERHEAD CONDUCTORS AND DEVICES	
	Conductors and Devices—110 KV Transmission Line	24,844.97
1001-C	GENERAL PLANT	
	371 STRUCTURES AND IMPROVEMENTS	
	Fluorescent Lights—Moccasin Machine Shop	437.98
	373 TRANSPORTATION EQUIPMENT	
	1933 Dodge 1½-ton Canopy Truck No. 206	945.00
	Total Retirements	$41,200.15

SCHEDULE No. 1-B

HETCH HETCHY POWER DIVISION
RESERVE FOR DEPRECIATION ELECTRIC PLANT

June 30, 1947

DESCRIPTION	Value in Service	Cost of Removal	Surplus	Net Debit to Reserve	Credits to Reserve	Credit Balance
Balance of Reserve—June 30, 1946 (Credit)	.....	.....	.....	.....	.....	$5,482,600.54
Amount Credited to Reserve and Charged to Expense Fiscal Year 1946-1947	.....	.....	.....	.....	$306,552.18	.....
Retirement of:						
Investigation of Moccasin Power House Foundations	$6,267.30	.....	.....	$6,267.30	.....	.....
Wooden Spillway—Intake	464.51	$415.49	.....	880.00	.....	.....
Towers and Fixtures—110 KV Transmission Line	6,557.43	5,096.94	.....	11,654.37	.....	.....
Poles and Fixtures—22 KV Transmission Line	1,682.97	1,431.14	.....	3,114.11	.....	.....
Conductors and Devices—110 KV Transmission Line	24,844.97	24,766.47	.....	49,611.44	.....	.....
Fluorescent Lights—Moccasin Machine Shop	437.98	24.82	.....	462.80	.....	.....
1933 Dodge 1½-ton Canopy Truck No. 206	945.00	.....	$189.00	756.00	.....	.....
	$41,200.16	$31,734.86	$189.00	$72,746.02	$306,552.18	233,806.16
Balance of Reserve, June 30, 1947 (Credit)						$5,716,406.70

SCHEDULE No. 2
HETCH HETCHY POWER RECONSTRUCTION AND REPLACEMENT FUND
RECEIPTS AND DISBURSEMENTS
Fiscal Year 1946-1947

Balance—June 30, 1946					$261,201.85
Receipts During 1946-47:					
1945-46 Balance, C. T. V. 44, August, 1946				$40,000.00	
July 1 to September 30, 1946, C. T. V. 75, August, 1946				131,586.00	
October 1 to December 31, 1947, C. T. V. 233, October, 1946				150,100.00	
January 1 to March 31, 1947, C. T. V. 551, February, 1947				131,585.00	
April 1 to June 30, 1947, C. T. V. 780, June, 1947				113,071.00	566,342.00
					$827,543.85
	CTV's	STV's	Warrants		
Disbursements During 1946-47:					
Replacement of Fluorescent Lights—Moccasin Machine Shop			93-117	$194.80	
Replacement of Needle Tips and Seat Rings at Moccasin			75-83-117-121-127-129	601.94	
Replacement of Poles, Cross Arms, etc.—22 KV Transmission Line		127		1,074.76	
Replacement of Conductors and Devices, Overhead System, 110 KV Transmission Line	275,418	336		23,896.21	
Replacement of Towers and Fixtures, Overhead System, 110 KV Transmission Line		128		2,322.45	
Investigation of Moccasin Power House Foundations		125 ,126	72	2,544.49	
			74	96.65	
Replacement of Two Electric Water Heaters—Moccasin Cottages					
Replacement of 6" Terra Cotta Sewer with 6" Cast Iron Pipe—Moccasin Cottages		337		984.77	
Replacement of Conductors and Devices—110 KV Transmission Lines		1741		24,849.34	
Replacement of Wooden Spillway with 42" Steel Pipe—Spillway E—Intake		812		880.00	
Replacement of Poles, Crossarms, etc.—22 KV Transmission Line		1740		1,722.23	
Replacement of Foundations, Anchors and Generators, Moccasin Power Plant	711		76-82 Inc.	109,024.91	
	544	2238	84-85-89-90-91		
	806		93-1		
	811		94-111 Inc.		
			113-114-115		
			119-120-122		
			123-126 Inc.		
			128-130		
			131-136 Inc.		
			139-146 Inc.		
			148-150-153 Inc.		
			155-158 Inc.		
Replacement of Ventilating Fans re: Replacement of Foundations, Anchors and Generators, Moccasin Power Plant		813		877.35	
Work by City Forces, re: Replacement of Foundations, Anchors and Generators, Moccasin Power Plant	575,654		118	1,369.51	
Replacement of One 16" Typewriter at Intake			149	177.93	
Replacement of One 1933 Dodge Truck 1½-ton Equipment No. 206			138	1,098.24	171,715.58
Treasurer's Balance—June 30, 1947					$655,828.27

EXHIBIT A
HETCH HETCHY WATER SUPPLY
PROPRIETARY BALANCE SHEET
June 30, 1947

ASSETS AND OTHER DEBITS

UTILITY PLANT:		
Hetch Hetchy Water Supply Property (Schedule No. 1)	$93,325,495.98	
Construction Work in Progress	37,054.95	$93,362,550.93
Less Reserve for Depreciation Hetch Hetchy Water Supply Properties (Schedules No. 1 and 1-C)		$15,422,458.07
Remainder Depreciated Value		$77,940,092.86
INVESTMENTS:		
Other Physical Property:		
Amazon and Glen Park Reservoir Sites		$460,925.00
CURRENT AND ACCRUED ASSETS:		
Cash on Deposit with Treasurer:		
Hetch Hetchy Project Operating Fund (Schedule No. 3)	$348,636.05	
Hetch Hetchy Reconstruction and Replacement Fund (Schedules No. 2 and 3)	205,563.34	
Hetch Hetchy Bond Funds (Schedule No. 3)	210,502.43	$764,701.82
Special Deposits with Treasurer:		
Hetch Hetchy Bond Interest Funds (Schedule No. 3)	$597,863.75	
Hetch Hetchy Bond Redemption Funds (Schedule No. 3)	1,018,000.00	
Hetch Hetchy Water Supply Land Purchase Fund (Schedule No. 3)	1,781.50	1,617,645.25
Working Funds:		
Cash in Transit		758.96
Accounts Receivable:		
Accounts Receivable—Miscellaneous	472.94	
Uncollectible Accounts Receivable	15,664.56	
Less Reserve for Uncollectible Accounts	15,664.56	472.94
Receivables from Municipality:		
Interfund Accounts, P. S. E.:		
San Francisco Airport	$134,925.35	
Public Utilities Commission	2,905.97	
Municipal Railway	30,218.70	168,050.02
Materials and Supplies:		
Corral Hollow Pipe Line		6,676.42
Prepayments:		
Prepaid Fire Insurance Premium	$539.60	
Public Utilities Commission	541.86	
Prepaid Tesla Chlorinator Power Line	3,330.79	
Less Reserve for Amortization Power Line	(2,747.21)	1,665.04
Total Current and Accrued Assets		$2,559,970.45
DEFERRED DEBITS:		
Cash Withheld by Hetch Hetchy Water Supply for Work Enc. but not yet performed (Contra)		$6,112.35
Suspense Debits:		
Deferred Bureau of Engineering Expense		341.16
Land Purchase Deposit		500.00
Preliminary Survey and Investigations		160,074.19
Commitments (Contra)		75,041.43
Work in Progress:		
Accounts Receivable and Interfund (Schedule No. 4)		68,508.08
Depreciation, Replacements, Hetch Hetchy Water Supply (Schedule No. 4)		25,552.07
Total Deferred Debits		$336,129.28
Total Accrued and Other Debits		$81,297,117.59

EXHIBIT A
(Continued)

LIABILITIES AND OTHER CREDITS

LONG TERM DEBT:		
Bonds—Municipality:		
Issues 1910 to 1933 due 12/1/46 to July 1, 1977 (Schedule No. 3)...		$42,454,100.00
CURRENT AND ACCRUED LIABILITIES:		
Accounts Payable and Commitments:		
Warrants Outstanding (Schedule No. 3).....	$71,020.78	
General Creditors	1,640.05	
Accrued Payrolls	.....	
Payroll Deductions Payable.....	.....	
Commitments (Contra)	75,041.43	$147,702.26
Payables to Municipality:		
Interfund Accounts, P.S.E.:		
San Francisco Water Department.....	$7,177.21	
Municipal Railway	1,274.82	
Public Utilities Commission.....	.58	8,452.61
Interfund Accounts, General City and County:		
Employees' Retirement System.....	$9,388.87	
General Fund	1,729.49	
Cash Reserve Fund.....	500,000.00	511,118.36
Matured Long Term Debt:		
Matured Bonds not Presented for Payment (Schedule No. 3).....		18,000.00
Matured Bond Interest:		
Matured Coupons not Presented for Payment (Schedule No. 3).....		55,363.75
Interest Accrued, Not Due (Schedule No. 3).....		985,407.90
Accrued Fee—U. S. Government (Raker Act).....		15,000.00
Total Current and Accrued Liabilities.....		$1,741,044.88
DEFERRED CREDITS:		
Suspense Credits:		
Deferred Interfund Payable.....		$671.46
Service Charges in Transit.....		1,503.45
Total Deferred Credits.....		$2,174.91
RESERVES:		
Injuries and Damages Reserve.....	$15,472.95	
Employees' Provident Reserves:		
Reserve for Vacations.....	9,451.42	
Reserve for Sick Leave.....	7,293.29	$32,217.66
Reserve for Unclaimed Warrants.....		12.35
Reserve for Advance Work not yet Performed:		
Municipal Railway.....	$6,112.35	
Hetch Hetchy Power Division (Contra).....	3,056.17	
Hetch Hetchy Water Supply (Contra).....	6,112.35	15,280.87
Total Reserves		$47,510.88
Total Liabilities		44,244,830.67
SURPLUS:		
Surplus (Exhibit)		$37,052,286.92
Total Liabilities and Other Credits.....		$81,297,117.59

EXHIBIT B

HETCH HETCHY WATER SUPPLY

COMPARATIVE INCOME STATEMENT

	July 1, 1946 to June 30, 1947	July 1, 1945 to June 30, 1946	Period July 1, 1935 to June 30, 1947
OPERATING REVENUES:			
Water Sales:			
Sale of Water Power, Hetch Hetchy Power Division	$813,137.00	$735,474.00	$5,225,981.00
Standby Charge and Sale of Water, San Francisco Water Department	3,731,908.00	661,277.00	7,811,577.00
Total Operating Revenues	$4,545,045.00	$1,396,751.00	$13,037,558.00
OPERATING REVENUE DEDUCTIONS:			
Operating Expenses:			
Production and Transmission Expenses	$171,788.55	$166,928.91	$1,205,412.79
War Emergency Expenditures	.....	1,535.88	90,292.03
Administration and General Expenses	138,327.20	73,539.09	798,513.59
Depreciation Expense	1,300,167.37	1,336,006.46	15,609,962.38
Valuation of Properties	.....	.....	10,563.52
Taxes (Actually Paid)	21,745.61	16,676.14	117,771.22
Fee to U. S. Government	30,000.00	30,000.00	251,680.00
Total Operating Revenue Deductions	$1,662,028.73	$1,624,686.48	$18,084,195.53
Net Operating Income	2,883,016.27	*$227,935.48*	*$5,046,637.53*
OTHER INCOME:			
Miscellaneous Non-Operating Revenue:			
Rental Income, Miscellaneous	$712.25	$610.06	$20,955.23
Interest Earned on Bank Deposits	.....	.....	26.61
Interest Earned on Treasurer's Balances	.....	.....	5,332.75
Miscellaneous	.....	.....	2,104.81
Total Other Income	$712.25	$610.06	$28,419.40
Gross Income	$2,883,728.52	*$227,325.42*	*$5,018,218.13*
INCOME DEDUCTIONS:			
Interest on Long Term Debt	$1,974,836.29	$2,065,285.07	$29,161,469.12
Net Income Transferred to Surplus	$908,892.23	*$2,292,610.49*	*$34,179,687.25*

Italic figures denote loss and deficiency.

EXHIBIT C
HETCH HETCHY WATER SUPPLY
SURPLUS ACCOUNT
For Twelve Months Ended June 30, 1947

SURPLUS—June 30, 1946		$36,223,519.29
CHANGES IN SURPLUS DURING 1946-47		
Additions:		
Contributions from Hetch Hetchy Power Division for Equipment, etc. (Net)		$10,049.72
Contributions from San Francisco Water Dept. for Operating Expenses (1945-46)		79,734.52
Miscellaneous Contributions to Surplus		232.54
Miscellaneous Additions to Surplus		28,659.37
Transfer from Vacation Reserve	$5,000.00	
Transfer from Injuries and Damages Reserve	8,200.00	
Transfer from Reserve for Unclaimed Warrants	62.68	
Proceeds of Sale of Three Maloney Transformers not Included in 1938 Valuation	13,068.00	
Surplus Adjustment account Reversal of Charges to Depreciation Expense and Credit to Depreciation Reserve Prior Years	831.69	
Trade-in Allowance and Sale Price of Three Pieces of Transportation Equipment which had been fully depreciated	1,497.00	
Net Earnings from Operations—Fiscal Year Ending June 30, 1947		908,892.23
		$1,027,568.38
Deductions:		
Adjustment of Tax Contributions from General Fund—Prior Years		$6,836.06
Corral Hollow Pipe Equipment used by San Francisco Water Department and Charged to their Surplus Contribution to Hetch Hetchy Water Supply for Buildings, Improvements, etc.		800.00
Adjustment of Contributions from Hetch Hetchy Power Division for Bond Interest and Redemption—Prior Years		187,800.00
Miscellaneous Deductions from Surplus		3,364.69
Payment to State of California re: Redetermination of Sales Taxes Due on Sales of Hetch Hetchy Equipment, etc., Prior to 1935	$3,364.69	
		$198,800.75
SURPLUS—June 30, 1947		$37,052,286.92

EXHIBIT C
(Continued)

COMPOSITION OF SURPLUS—JUNE 30, 1947

Additions:	
Contributions from General Fund for Bond Interest and Redemption	$37,286,317.76
Contributions from Hetch Hetchy Power Division for Bond Interest and Redemption	23,284,425.46
Contributions from Hetch Hetchy Power Division for Reconstruction, Replacements and Equipment	361,702.31
Contributions from San Francisco Water Department for Bond Interest and Redemption	2,335,819.00
Contributions from San Francisco Water Department for Operating Expenses	2,104,138.26
Contributions from San Francisco Water Department for Reconstruction and Replacements	33,041.84
Contributions from San Francisco Water Department through General Fund for Bond Interest and Redemption	6,278,591.14
Interest received from Other Funds	77,801.23
Bond Premium 1910-1932 Hetch Hetchy Bond Funds	1,240,169.26
Bond Premium 1933 Hetch Hetchy Dam Bonds	137,438.55
Grants Earned on Federal Work Projects—Hetch Hetchy Dam and Moccasin Diversion Works	1,211,450.00
Contribution to 1932 Bond Fund by Hetch Hetchy Power Division for Sale of 2 Steel Towers	250.00
Miscellaneous Contributions	232.54
Miscellaneous Additions to Surplus	38,584.49
	$74,389,961.84
Deductions:	
Net Loss July 1, 1935 to June 30, 1947	$34,179,687.25
Bond Discount, 1910 Hetch Hetchy Bonds	737,956.39
Retirement Corral Hollow Pipe Line	1,287,161.51
Cost of Newark-San Lorenzo Pipe Line Transferred to San Francisco Water Department	1,063,840.76
Contribution from 1932 Hetch Hetchy Bond Fund to Hetch Hetchy Power Division for Reconstruction and Replacements	50,278.97
Proceeds from Sale of Land Transferred to San Francisco Water Department	2,800.00
Miscellaneous Deductions from Surplus	15,950.04
	$37,337,674.92
Surplus at June 30, 1947	$37,052,286.92

EXHIBIT D
HETCH HETCHY WATER SUPPLY
COMPARATIVE STATEMENT OF OPERATING EXPENSES

		July 1, 1946 to June 30, 1947	July 1, 1945 to June 30, 1946	Period July 1, 1935 to June 30, 1947
	OPERATION			
6000	Salaries and Wages	$47,778.84	$39,146.08	$283,424.78
6010	Contributions to Retirement System	3,017.17	2,411.73	14,763.33
6020	Compensation Insurance	.....	.....	113.19
6030	Traveling	143.27	117.76	2,151.16
6050	Operating Supplies and Expenses	691.51	818.03	11,623.60
6090	Miscellaneous	7.80	10.69	3,535.73
6096	Rent of Warehouse	.....	.....	509.81
6200	Salaries and Wages—Transmission	12,893.32	7,375.29	20,268.61
	Total Plant Operating Expenses	$64,531.91	$49,879.58	$336,390.21
	REPAIRS AND MAINTENANCE			
7000	Buildings and Structures (Water)	$2,587.02	$6,425.17	$37,770.77
7002	Buildings and Structures (Joint)	31,439.07	37,028.90	221,881.71
7010	Reservoirs, Dams and Intakes	7,149.90	4,097.08	45,824.18
7015	Waterways	987.81	6,450.28	19,467.08
7020	Pipe Lines	9,893.66	10,156.67	86,241.43
7030	Miscellaneous Equipment (Joint)	3,426.82	3,036.75	33,046.00
7035	Aqueduct Tunnels	12,200.40	8,001.98	65,751.16
7050	Automotive Transportation Equipment (Water)	3,012.59	2,031.87	17,298.62
7051	Automotive Transportation Equipment (Joint)	1,743.79	84.82	8,434.10
7090	Miscellaneous	*6,398.50*	3,460.83	34,325.22
7095	Hydrography	5,798.97	4,568.33	53,919.10
7140	Roads and Trails (Lake Eleanor to Moccasin)	18,596.32	14,169.23	131,294.66
7141	Roads and Trails (Moccasin to Tesla Portal)	2,455.04	5,464.41	30,572.16
7142	Roads and Trails (Tesla Portal to Irvington Portal)	3,809.29	2,445.58	23,675.56
7292	Telephone Lines	10,554.46	9,627.43	59,520.83
	Total Repairs and Maintenance	$107,256.64	$117,049.33	$869,022.58

EXHIBIT D
(Continued)

		July 1, 1946 to June 30, 1947	July 1, 1945 to June 30, 1946	Period July 1, 1935 to June 30, 1947
	WAR EMERGENCY EXPENDITURES			
7997	Cost of State Guard Operations	.....	.....	$20,532.55
7998	Construct Facilities for State Guard Use	.....	.....	5,199.53
7999	Guarding and Patrolling to Prevent Sabotage to Hetch Hetchy Water Supply Properties	.....	$1,535.88	64,559.95
	Total War Emergency Expenditures	.....	$1,535.88	$90,292.03
	Total Production, Transmission and War Emergency Expenses	$171,788.55	$168,464.79	$1,295,704.82
	ADMINISTRATIVE AND GENERAL			
8000	Salaries and Wages	$15,346.51	$97,194.08	$477,971.81
8005	Contributions to Retirement System	743.74	4,458.88	20,310.78
8010	Services of Other Departments	83,206.84	23.01	122,676.77
8015	Professional Services	1,102.84	956.25	15,675.73
8020	Stationery, Office Supplies and Postage	1,598.19	2,048.18	15,437.39
8021	Sundry Office Expense	6.82	547.98	2,500.06
8025	Telephone and Telegraph	8.96	202.49	3,112.21
8030	Traveling	639.61	1,969.22	10,377.04
8035	Insurance	231.11	252.38	1,323.32
8040	Injuries and Damages	38.41	283.05	4,500.98
8041	Allowance for Sick Leave	.....	.....	500.00
8050	War Risk Insurance Premiums	.....	.....	867.76
8051	Automobile Insurance Premiums	971.96	717.22	8,493.24
8061	Water Rights and Damage Claims	34,423.55	22,850.05	291,360.14
8062	Legal Expense, Water Rights Litigation	.....	.....	3,133.79
8063	Legal Expense, Tuolumne River Claims	.....	.....	7,527.79
8064	Legal Expense, Transbay Suit	.....	.....	2,386.47
8065	Expense of Sales Tax Litigation re: Cement Purchases	.....	.....	93.81
8095	Miscellaneous	8.66	122.74	190.60
8877	Expenses Transferred—Credit	.....	*58,086.44*	*189,895.43*
	Total Administrative and General	$138,327.20	$73,539.09	$798,544.26
	Total Water Operating Expenses	$310,115.75	$242,003.88	$2,094,249.08

Italic figures denote loss and deficiency.

HETCH HETCHY WATER SUPPLY

COMPARISON OF ACTUAL REVENUES AND EXPENSES WITH BUDGET ESTIMATES

Fiscal Year 1946-1947

EXPENDITURES	Fiscal Year 1946-47 Budget and Modifications	Month of June, 1947 Budget and Modifications	Month of June, 1947 Expenses Revenues Accruals	Month of June, 1947 Increase or Decrease	Twelve Months to June 30, 1947 Budget and Modifications	Twelve Months to June 30, 1947 Expenses Revenues Accruals	Twelve Months to June 30, 1947 Increase or Decrease
Production Expenses:							
Operation	$39,410.00	$3,284.16	$3,256.55	$27.61	$39,410.00	$37,991.24	$1,418.76
Maintenance	149,097.00	12,424.75	12,498.76	*74.01*	149,097.00	94,063.19	55,033.81
Total Production Expenses	$188,507.00	$15,708.91	$15,755.31	*$46.40*	$188,507.00	$132,054.43	$56,452.57
Transmission Expenses:							
Operation	$14,815.00	$1,234.58	$1,136.35	$98.23	$14,815.00	$13,992.53	$822.47
Maintenance	43,577.00	3,631.42	3,607.77	23.65	43,577.00	25,741.59	17,835.41
Total Transmission Expenses	$58,392.00	$4,866.00	$4,744.12	$121.88	$58,392.00	$39,734.12	$18,657.88
Administrative and General Expenses	$164,573.00	$13,714.42	$14,002.67	*$288.25*	$164,573.00	$138,327.20	$26,245.80
Total Operating Expenses	$411,472.00	$34,289.33	$34,502.10	*$212.77*	$411,472.00	$310,115.75	$101,356.25

Fixed Charges:							
Bond Redemption	$1,966,900.00	$163,908.33	$163,908.33	.....	$1,966,900.00	$1,966,900.00	.....
Bond Interest	1,989,822.00	165,818.50	165,818.50	.....	1,989,822.00	1,989,822.00	.....
Fee to U. S. Government (Raker Act)	30,000.00	2,500.00	2,500.00	.....	30,000.00	30,000.00	.....
Taxes	17,350.00	1,445.84	1,445.84	.....	17,350.00	17,350.00	.....
Total Fixed Charges	$4,004,072.00	$333,672.67	$333,672.67	.....	$4,004,072.00	$4,004,072.00	.....
Equipment Replacement	$750.00	$62.50	$62.50	.....	$750.00	$750.00	.....
Additions and Betterments	32,975.00	2,747.92	2,747.92	.....	32,975.00	32,975.00	.....
Current Reconstruction and Replacement	71,113.00	5,926.08	5,926.08	.....	71,113.00	71,113.00	.....
Surplus	24,663.00	2,055.25	2,055.25	.....	24,663.00	24,663.00	.....
Total Expenditures	$4,545,045.00	$378,753.75	$378,966.52	*$212.77*	$4,545,045.00	$4,443,688.75	.....
RECEIPTS							
Revenue:							
Sale of Water for Power	$813,137.00	$67,761.42	$67,761.42	.....	$813,137.00	$813,137.00	.....
Standby Charge and Sale of Water	3,731,908.00	310,992.33	310,992.33	.....	3,731,908.00	3,731,908.00	.....
Total Revenue	$4,545,045.00	$378,753.75	$378,753.75	.....	$4,545,045.00	$4,545,045.00	.....
Net Savings over Budget Estimate				*$212.77*			$101,356.25

Italic figures denote loss and deficiency.

SCHEDULE No. 1
HETCH HETCHY WATER SUPPLY
FIXED CAPITAL IN SERVICE

June 30, 1947

Account Number		Balance June 30, 1946	Gross Additions	Retirements	Adjustments	Balance June 30, 1947	Accrued Depreciation
1010-C2	Franchises and Water Rights	$2,735,630.00	.....	.....	.....	$2,735,630.00	.....
1015-C5	Landed Capital:						
A	Source of Water Supply Land	$172,163.00	.....	.....	.....	$172,163.00	.....
D	Right of Way Land	618,236.76	.....	.....	.....	618,236.76	.....
E	General Office and Other Lands	68,450.00	.....	.....	.....	68,450.00	.....
F	Roads, Trails and Tramways (Including H. H. Railroad)	919,148.99	$5,398.48	*$5,398.48*	.....	919,148.99	$296,204.37
		$1,777,998.75	$5,398.48	*$5,398.48*	.....	$1,777,998.75	$296,204.37
1020-C6	Buildings, Structures and Grounds:						
A	Source of Water Supply Buildings and Fixtures	$142,198.04	$971.17	.....	.....	$143,169.21	$57,674.58
B	Pumping Stations, Buildings and Fixtures	11,014.00	325.51	*$325.51*	.....	11,014.00	3,304.15
C	Purification, Buildings and Fixtures	28,210.00	.....	.....	.....	28,210.00	5,051.80
D	General Office and Other Buildings and Fixtures	1,250.00	.....	.....	.....	1,250.00	364.60
		$182,672.04	$1,296.68	*$325.51*	.....	$183,643.21	$66,395.13
1025-C7	Impounding Dams and Reservoirs	$16,349,162.33	.....	.....	.....	$16,349,162.33	$2,018,710.28
-C8	Lake and River Cribs	747,423.15	.....	.....	.....	747,423.15	95,282.63

-C13	Canals and Conduits	71,240,361.15	$1,023.14	*$950.56*	.....	71,240,433.73	12,797,916.58
		$88,336,946.63	$1.023.14	*$950.56*	.....	$88,337,019.21	$14,911,909.49
1030-C14	Pumping Equipment	$24,521.00	.....	.....	.....	$24,521.00	$14,712.45
1035-C16	Purification Capital	$37,207.00	.....	.....	.....	$37,207.00	$14,827.74
1045-C24	General Equipment:						
A	General Office Equipment	$6,359.08	$1,004.37	.....	.....	$7,363.45	$3,171.31
D	General Stable and Garage Equipment	58,326.37	6,117.74	*$5,463.70*	.....	58,980.41	41,139.71
E	General Construction Equipment	44,108.92	6,211.43	.....	.....	50,320.35	35,328.95
F	Railroad Rolling Stock	14,004.00	.....	.....	.....	14,004.00	14,004.00
G	Communication System Equipment	43,690.00	1,929.57	*1,929.57*	.....	43,690.00	22,283.76
H	Other Equipment	5,296.62	648.69	.....	.....	5,945.31	2,481.16
		$171,784.99	$15,911.80	*$7,393.27*	.....	$180,303.52	$118,408.89
1049-C24J	General Capital Unclassified	$53,297.00	.....	.....	.....	$53,297.00	.....
1050-C25	Undistributed Construction Expenditures:						
A	Engineering Superintendence	$1,639.83	.....	.....	.....	$1,639.83	.....
F	Undistributed Construction Expenditures	*5,763.54*	.....	.....	.....	*5,763.54*	.....
		$4,123.71	.....	.....	.....	*$4,123.71*	.....
		$93,315,933.70	$23,630.10	*$14,067.82*	.....	$93,325,495.98	$15,422,458.07

Italic figures denote loss and deficiency.

SCHEDULE No. 1-A
HETCH HETCHY WATER SUPPLY
GROSS ADDITIONS
June 30, 1947

1015-C5F	ROADS, TRAILS AND TRAMWAYS		
	Replacing Ties and Culverts on Hetch Hetchy Railroad		$5,398.48
1020-C6A	SOURCE OF WATER SUPPLY, BUILDINGS AND FIXTURES		
	Additional Light Plant Installation at Lake Eleanor		971.17
1020-C6B	PUMPING STATION BUILDINGS AND FIXTURES		
	Replace Water Pipe System Pump House at West Portal		325.51
1025-C13	TUNNELS AND PIPE LINE AQUEDUCTS		
	Hospitalization——Coast Range Division	$72.58	
	Replace Fence Around Alameda Transformer Station	328.86	
	Replace Fence Around Steel Headframe and Shaft Valle	388.08	
	Replace Grizzlies in Front Flumes Through Mitchell Dump	233.62	1,023.14
1045-C24A	GENERAL OFFICE EQUIPMENT		
	One Royal 26" Typewriter for San Francisco Office (from Hetch Hetchy Power Division, a/c 3740-573)	$178.50	
	Restoring to Service One Posture Chair Charged off as missing in 1946 J. E. 6-35 Item 39P	23.52	
	Office Equipment Charged off in 1945-1946 J. E. 6-35 as missing found in 1946-1947	41.00	
	Two Line-A-Time Copy Holders—from Hetch Hetchy Engineering Bureau	69.53	
	Two Posture Chairs—from Hetch Hetchy Engineering Bureau	56.76	
	Two Typewriter Tables—from Hetch Hetchy Engineering Bureau	23.58	
	Three Steel File Plain File Cabinets—from Hetch Hetchy Engineering Bureau	292.13	
	One Draftsman Stool—from Hetch Hetchy Engineering Bureau	19.52	
	One Underwood Typewriter—from Hetch Hetchy Engineering Bureau	119.83	
	Restoring to Service Four Cabinets No. 62-737 to 740 incl. Charged off as missing J.E. 35 Item 31R 1945-46	180.00	1,004.37
1045-C24D	GENERAL TRANSPORTATION EQUIPMENT		
	Purchase Ford Pickup Truck Equipment No. 18A	$1,138.45	
	Purchase 1946 Dodge ½-ton Pickup Truck, Equipment No. 208-B	1,224.87	
	Purchase 1946 Cadillac Eight Cylinder Car, Equipment No. 22	3,754.42	6,117.74
1045-C24E	GENERAL CONSTRUCTION EQUIPMENT		
	Purchase Red Wing Engine for 22-ft. Yawl	$695.90	
	Restore 22-ft. Yawl to F/C in Service—not sunk in storm per J.E. 1941-42, Item R-24	348.05	
	Purchase One Yale, Three-ton Ball Bearing Chain Hoist	153.70	
	Purchase One Yale, One-ton Ball Bearing Chain Hoist	76.94	
	Purchase One Ten-ton Huber Roller	1,650.13	
	Purchase One Portable Concrete Mixer	1,294.81	
	Purchase One Line Boring Machine	502.25	
	Purchase One Anderson Balancing Ways	81.23	
	Purchase One 330 Bear H.D. Wheel Balancer	478.23	
	Purchase One H.D. Turning Radius Gauge—with latest Camber Corrector	135.81	
	Purchase One CMC 6 cu. ft. Portable Bituminous Mixer	794.38	6,211.43
1045-C24G	COMMUNICATION SYSTEMS		
	Replacing Poles, Crossarms, etc., on Telephone Lines		1,929.57
1045-C24H	OTHER EQUIPMENT		
	Purchase Fourteen Springs and Mattresses for Lake Eleanor	$472.65	
	Purchase Frigidaire for Mather House—(Emerson)	176.04	648.69
	Total Additions		$23,630.10

SCHEDULE No. 1-B
HETCH HETCHY WATER SUPPLY
RETIREMENTS

June 30, 1947

1015-C5F	ROADS, TRAILS AND TRAMWAYS		
	Retire Ties and Culverts on Hetch Hetchy Railroad		$5,398.48
1020-C6B	PUMPING STATION BUILDINGS AND FIXTURES		
	Retire Water Pipe System Pump House at West Portal		325.51
1025-C13	TUNNELS AND PIPE LINE AQUEDUCTS		
	Retire Fence Around Alameda Transformer Station	$528.86	
	Retire Fence Around Steel Headframe and Shaft, Valle	388.08	
	Retire Grizzlies in Front Flumes Through Mitchell Dump	233.62	950.56
1045-C24D	GENERAL TRANSPORTATION EQUIPMENT		
	Retire 1937 International Pickup Truck, Equipment No. 18, Traded in on No. 18A	$811.00	
	Retire 1940 Ford Pickup Truck, Equipment No. 208A, Traded in on No. 208B	709.81	
	Retire 1938 Packard Sedan, Equipment No. 16A, Sold	3,942.89	5,463.70
1045-C24G	COMMUNICATION SYSTEMS		
	Retire Poles, Crossarms, etc., on Telephone Lines		1,929.57
	Total Retirements		$14,067.82

SCHEDULE No. 1-C
HETCH HETCHY WATER SUPPLY
RESERVE FOR DEPRECIATION OF PLANT

Description	1 Value in Service	2 Cost of Removal	3 Surplus	4 Net Debit to Reserve	5 Credits to Reserve	Credit Balance
Balance of Reserve for Depreciation of Plant—June 30, 1946 (Credit)	.....	.....	.....	.....	.....	$14,143,913.95
Normal Annual Depreciation Expense for 1946-47	.....	.....	.....	.....	$1,283,601.47	.....
Additional Depreciation Expense 1946-47 due to Additions to Capital Accounts	.....	.....	.....	.....	16,565.90	.....
Adjustments of Credits to Reserve—Prior Years	.....	.....	.....	.....	(239.12)	.....
Retirements of:						
Ties and Culverts on Hetch Hetchy Railroad	$5,398.48	$4,479.68	.....	$9,878.16	.....	.....
Water Pipe System—Pump House at West Portal	325.51	316.76	.....	642.27	.....	.....
Fence Around Alameda Transformer Station	328.86	328.85	.....	657.71	.....	.....
Fence Around Steel Headframe and Shaft—Valle	388.08	388.07	.....	776.15	.....	.....
Grizzlies in Front Flumes—Mitchell Dump	233.62	233.61	.....	467.23	.....	.....
1937 International Pickup Truck No. 18	811.00	.....	.....	811.00	.....	.....
1940 Ford Pickup Truck No. 208A	709.81	.....	.....	709.81	.....	.....
1938 Packard Sedan No. 16A	3,942.89	.....	.....	3,942.89	.....	.....
Poles, Crossarms, etc.—Telephone Lines	1,929.57	1,569.34	.....	3,498.91	.....	.....
Total Debits and Credits to Reserve, Fiscal Year 1946-47	$14,067.82	$7,316.31	.....	$21,384.13	$1,299,928.25	$1,278,544.12
Balance of Reserve for Depreciation of Plant, June 30, 1947 (Credit)						$15,422,458.07

SCHEDULE No. 2
HETCH HETCHY WATER SUPPLY RECONSTRUCTION AND REPLACEMENT FUND
RECEIPTS AND DISBURSEMENTS
Fiscal Year 1946-1947

Balance—June 30, 1946		$172,627.40
Received from Hetch Hetchy Power Division Fund for 1946-1947 Budget—C. T. V. No. 43	$10,000.00	
Received from Hetch Hetchy Power Division Fund for 1946-1947 Budget—C. T. V. No. 146	7,779.00	
Received from Hetch Hetchy Power Division Fund for 1946-1947 Budget—C. T. V. No. 364	17,778.00	
Received from Hetch Hetchy Power Division Fund for 1946-1947 Budget—C. T. V. No. 585	17,778.00	
Received from Hetch Hetchy Power Division Fund for 1946-1947 Budget—C. T. V. No. 780	17,778.00	71,113.00
Total on Hand and Received—1946-1947		$243,740.40
Disbursements—1946-1947:		
Reference / Description		
Warrant No. 68 Hydroelectric Generating Plant	$1,738.15	
Warrant No. 69 Portable Air Compressor	3,920.63	
S. T. V. No. 123 Replace Poles, Crossarms, etc., in Telephone Lines	2,227.41	
S. T. V. No. 124 Replace Ties on Hetch Hetchy Railroad	5,376.98	
S. T. V. No. 230 Official Advertising, January 1 to June 30, 1946	79.00	
Warrant No. 70 Mattresses and Innersprings	885.97	
Warrant No. 71 Reimbursement of Petty Cash Expenditures	14.04	
Warrant No. 73 Panel for Red Wing Engine	684.10	
Warrant No. 75 Reimbursement of Petty Cash Expenditures	6.12	
Warrant No. 86 Bed Springs	315.50	
Warrant No. 87 Yale Spur Geared Chain Hoist	227.82	
Warrant No. 88 Cadillac 46-6069, 5P Sedan, Motor No. 6404883	3,754.42	
Warrant No. 92 Roller Road, 3 Wheel, 10 Ton Gasoline Engine, Huber Model	1,470.00	
S. T. V. No. 1355 Replace Poles, Crossarms, etc., in Telephone Lines	1,624.83	
S. T. V. No. 1356 Bid Advertising, July to December, 1946	47.52	
S. T. V. No. 1739 Replace Ties and Culverts on Hetch Hetchy Railroad, July 1 to December 31, 1946	5,857.08	
Warrant No. 112 1946 Dodge Pickup Truck WC 116" WB	674.87	
Warrant No. 116 Reimbursement of Petty Cash Expenditures	146.20	
S. T. V. No. 1824 Replace Light Plant Installation at Lake Eleanor	971.17	
S. T. V. No. 1825 Replace Grizzlies in Front of Flumes Through Mitchell Dump	467.23	
S. T. V. No. 1826 Replace Fence Around Steel Headframe and Shaft, at Valle	776.15	
S. T. V. No. 1827 Replace Fence Around Alameda Creek Transformer Station	657.71	
S. T. V. No. 2034 Replace Ties and Culverts on Hetch Hetchy Railroad	4,021.08	
Warrant No. 137 Ford 114" Wheelbase 6-cylinder Pickup 4 Transmission	721.45	
Warrant No. 147 Reimbursement of Petty Cash Expenditures	5.68	
Warrant No. 154 Portable 6 C. F. Non-tilt Concrete Mixer	1,294.81	
S. T. V. No. 2237 Replace Poles, Crossarms, etc. in Telephone Lines, January 1 to June 30, 1947	1,874.08	
S. T. V. No. 2395 Replace Water System Pipelines, Pump House, at West Portal	642.27	
C. T. V. No. 652 Used Taxes for Quarter Ending 3/31/47	36.75	*40,519.02*
		$203,221.38
Warrants 157 and 158 Outstanding as of June 30, 1947		2,341.96
Balance—June 30, 1947		$205,563.34

Italic figures denote loss and deficiency.

SCHEDULE No. 3
HETCH HETCHY WATER SUPPLY AND POWER PROJECT
DETAIL OF FUNDS, BONDED DEBT, AND WARRANTS OUTSTANDING

June 30, 1947

	Operating Funds	Reconstruction and Replacement Funds	Bond Funds	Land Purchases Fund	Bond Interest Funds	Bond Redemption Funds	Bonded Debt Matured Unpaid	Bonded Debt Unmatured	Bond Interest Matured Unpaid	Bond Interest Accrued Not Due	Warrants Outstanding
1910—4½%.....	.....	.....	.....	.....	$423,832.50	$1,005,000.00	$5,000.00	$18,000,000.00	$18,832.50	$405,000.00	.....
1925—5%.....	.....	.....	.....	.....	142,250.00	2,000.00	2,000.00	5,500,000.00	4,750.00	137,500.00	.....
1928—4½%.....	.....	.....	.....	.....	13,095.00	1,000.00	1,000.00	18,600,000.00	13,095.00	418,500.00	.....
1932—5¾%.....	.....	.....	.....	.....	11,672.50	.....	.....	2,804,000.00	11,672.50	13,435.83	.....
1932—5%.....	.....	.....	.....	.....	4,375.00	.....	.....	1,152,000.00	4,375.00	4,800.00	.....
1932—4½%.....	.....	.....	.....	.....	180.00	.....	.....	52,000.00	180.00	195.00	.....
1932—4%.....	.....	.....	.....	.....	840.00	.....	.....	260,000.00	840.00	866.66	.....
1932—3%.....	.....	.....	.....	.....	375.00	.....	.....	178,000.00	375.00	445.00	.....
1932—2¾%.....	.....	.....	.....	.....	343.75	10,000.00	10,000.00	254,000.00	343.75	582.08	$1,785.41
1933—4%.....	.....	.....	.....	.....	900.00	.....	.....	1,225,000.00	900.00	4,083.33	.....
H.H. Project Operating	$485,837.44	.....	.....	.....	.....	.....	.....	.....	.....	.....	66,893.41
H.H. Project Reconstruction and Replacement	.....	$861,391.61	.....	.....	.....	.....	.....	.....	.....	.....	2,341.96
H.H. Water Supply....	.....	.....	$210,502.43	$1,781.50	.....	.....	.....	.....	.....	.....	.....
Totals	$485,837.44	$861,391.61	$210,502.43	$1,781.50	$597,863.75	$1,018,000.00	$18,000.00	$48,025,000.00	$55,363.75	$985,407.90	$71,020.78
H.H. Water Supply...	$348,636.05	$205,563.34						$42,454,100.00			
H.H. Power Division...	$137,201.39	$655,828.27						$5,570,900.00			

SCHEDULE No. 4
HETCH HETCHY WATER SUPPLY
DETAIL OF CONSTRUCTION WORK IN PROGRESS AND OTHER WORK IN PROGRESS

June 30, 1947

DETAIL OF REPLACEMENT WORK IN PROGRESS

3825-580B	Replace Cottages at Lake Eleanor	$16,787.84	
3825-6104	Replace 3,000 ft. 2-inch Pipe Line to South Fork Railroad Tank	81.52	
3825-6106	Replace Fence Across Moccasin Dam	235.40	
3825-6107	Replace Six Wooden Cattleguards SJPL	925.86	
3825-6108	Replace Fence Around Open Cut, Oakdale Portal, SJPL	240.97	
3825-6110	Replace Gates, Headwalls and Culverts, SJPL	989.63	
3850-671	Streamflow Measurements re: Master Plan for Development of Water Resources	3,465.18	
3850-672	Snow Surveys re: Master Plan for Development of Water Resources	2,368.54	
3850-674	Fencing and Improving Grounds at Oakdale	457.13	$25,552.07

DETAIL OF WORK IN PROGRESS—ACCOUNTS RECEIVABLE AND INTERFUND

3613-256	Replace Electric Circuits, Power Lines at Mather	$803.57	
3665-251	Engineering Studies and Plans—R. & R. Market St., Ext. Properties	—15.31*	
3665-254	Engineering re: Reconstruction "E" Line—Contract 241 and 262	2,779.53	
3665-255	Map Central Radio Control Room	218.17	
-257	Engineering, Construction Bus Garage, Kirkland Yards	1,708.39	
-259	Field Engineering, Construction No. 270, Stockton and 4th Street Extension	49.50	
-260	Engineering, Inspection Bus Lift and Pave 24th Street Garage	125.32	
-263	Engineering, Studies and Plans Replacement Municipal R.R. Properties	6.48	5,675.65
3696-56	Airport—Office Engineering	$27,691.10	
-56.1	Airport—Office Engineering Improvements	2,492.08	
-57	Airport—Field Engineering, Inspection and Supervision	—81.08*	
-57.1	Airport—Field Engineering, Inspection and Supervision	32,730.33	62,832.43
	Total		$68,508.08

*Credit—Encumbrances Invoiced.

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU
QUARTERLY REPORT—AUTOMOTIVE EQUIPMENT OPERATIONS—COSTS AND CREDITS—Account No. 7051
Period, October 1, 1937 to June 30, 1947

Car No.	Make and Model	License Number	Mileage	Cost of Operation	Cost per Mile	Operating Credits	Excess of Costs Over Credits	Excess of Credits Over Costs	Revised Rate Per Mile June 30, 1947
1-B	1942 Oldsmobile Club Coupe	65 636	49,045	$1,017.22	$.0207	$1,285.00	.....	$267.78	$.03
2-B	1941 Chevrolet Coupe	62 136	52,941	1,249.57	.0236	1,167.24	$82.33	.....	.04
3-A	1941 Chevrolet Carryall	62 142	75,697	3,719.37	.0491	3,779.64	.....	60.27	.05
4-B	1941 Chevrolet ½-ton Canopy Express	62 823	37,173	1,884.41	.0507	2,502.55	.....	618.14	.05
5	1937 International Pickup	20 164	46,852	4,483.93	.0957	4,580.16	.....	96.23	.10
6-A	1941 Chevrolet Pickup ½-ton	62-141	21,928	731.16	.0333	765.53	.....	34.37	.05
7-A	1937 International Pickup	20 166	38,292	2,765.56	.0722	2,283.02	482.54	.....	.11
8-A	1942 Chevrolet Tudor Sedan	63 755	9,055	416.43	.0460	399.30	17.13	.....	.06
9-B	1942 Chevrolet De Luxe 4-door Sedan	63 756	54,402	1,924.12	.0354	2,026.51	.....	102.39	.04
10-A	1942 Chevrolet De Luxe Sport Sedan	63 670	62,901	1,262.65	.0201	1,529.84	.....	267.19	.03
11-C	1946 Chevrolet Pickup	29 389	19,988	542.53	.0271	518.89	23.64	.....	.05
12-B	1941 Chevrolet Coupe	62 008	137,001	3,730.06	.0272	3,780.26	.....	50.20	.03
13-A	1941 Ford Pickup ½-ton	61 991	48,771	1,532.50	.0314	1,477.33	55.17	.....	.05
14-A	1942 Chevrolet Pickup ½-ton	63 671	50,792	1,613.55	.0318	1,807.63	.....	194.08	.04
16	1938 Packard Sedan	32 283	133,919	9,202.14	.0687	9,787.16	.....	585.02	...
17	1937 Ford Truck 1½-ton	20 744	118,807	7,630.77	.0642	7,732.48	.. ..	101.71	.08
18	1937 International Pickup	20 171	61,535	4,033.43	.0655	3,840.86	192.57	.....	...
18-A	1947 Ford Pickup Truck	.....	2,284	.....	....	224.40	.....	224.40	.05
19	White Railroad Bus	.....	17,966	2,389.93	.1330	3,076.51	.....	686.58	.14
21	White Railroad Bus	.....	7,041	1,509.45	.2143	1,131.92	377.53	.....	.30
22	1946 Cadillac Sedan 4-door	70 081	10,140	344.46	.0340	566.28	.....	221.82	.05
29	1922 Buda Railway Speeder	.....	2,318	297.35	.1283	248.13	49.22	.....	.20
30	1922 Buda Railway Speeder	.....	2,009	302.63	.1506	249.92	52.71	.....	.20
31-A	1942 Nash Coupe	28 855	24,148	366.99	.0152	557.55	.....	190.56	.03
44	1945 Chevrolet Truck 1½-ton	29 357	20,593	429.92	.0209	1,116.52	.....	686.60	.04
45	1945 Chevrolet Truck 1½-ton	29 358	11,214	1,004.67	.0896	1,073.29	.....	68.62	.09
50	1946 F.W.D. Tractor	.....	4,380	1,233.81	.2817	1,776.51	.....	542.70	.30
51	1946 Trailmobile, Semi-trailer	.....	3,970	408.76	.1030	163.42	245.34	.....	.10
103-A	1941 Chevrolet Pickup ¾-ton	62 140	48,182	1,536.26	.0319	1,732.34	.....	196.08	.04
106	1920 White Truck ¾-ton	20 173	1,357	586.61	.4323	417.04	169.57	.....	.50

108	1920 White Truck 5-ton	20 746	4,410	2,180.76	.4945	1,053.94	1,126.82	.....	.60
112	1938 Ford Dump Truck 1½-ton	25 720	55,390	5,817.60	.1050	5,417.10	400.50	.....	.15
114	1937 Chevrolet Dump Truck	20 175	40,629	5,416.48	.1333	4,952.62	463.86	.....	.20
120	1924 White Truck 2-ton	20 747	6,909	1,019.91	.1476	1,192.54	.....	172.63	.15
121	1924 White Winch Truck 2-ton	20 176	13,575	2,845.79	.2096	2,599.73	246.06	.....	.25
123-SFWD	1938 Packard Sedan	32 286	5,427	307.12	.0566	379.89	.....	72.77	.07
130-SFWD	1941 Plymouth Station Wagon	65 195	31,467	1,510.58	.0480	1,711.14	.....	200.56	.05
131-SFWD	1941 Chevrolet Carryall	64 378	12,293	608.78	.0495	414.68	194.10	.....	.07
132-SFWD	1940 Chevrolet Station Wagon	65 200	61,267	2,452.91	.0400	2,071.66	381.25	.....	.07
200	1936 F.W.D. Truck 4/5-ton	20 177	32,668	8,711.72	.2667	7,958.00	753.72	.....	.33
201	1938 F.W.D. Line Truck 2½-3 ton	25 665	64,923	7,422.62	.1143	9,354.24	.....	1,931.62	.10
202	1936 F.W.D. Line Truck 1½-ton	20 178	39,255	7,839.16	.1997	7,908.94	.....	69.78	.20
206	1933 Dodge Truck 1½-ton	20 179	21,892	2,298.84	.1050	2,330.01	.....	31.17	.11
206-A	1947 Chevrolet 1-ton Pickup	.....	580	.....	....	41.80	.....	41.80	.10
208-A	1940 Ford Pickup ½-ton	60 988	125,225	2,675.96	.0214	2,756.70	.....	80.74	.03
208-B	1947 Dodge Pickup 1½-ton	70 615	3,085	34.67	.0112	123.40	.....	88.73	.04
209-B	1942 Mercury Sedan	28 995	19,664	493.24	.0251	575.74	.....	82.50	.03
210	1941 Chevrolet Suburban Carryall	62 737	46,488	3,037.24	.0653	3,242.93	.....	205.69	.07
211	1942 Ford V-8 Sedan	63 874	80,892	2,127.91	.0263	2,180.50	.....	52.59	.03
212	1942 Ford 4-door Sedan	63 947	55,922	1,385.09	.0248	1,356.08	29.01	.....	.04
213	1942 Ford Station Wagon	63 946	18,148	1,569.99	.0865	1,103.87	466.12	.....	.10
214	1942 Ford 4-door Sedan	64 053	14,742	777.96	.0528	895.11	.....	117.15	.06
215	1942 Ford Station Wagon	64 052	44,972	2,048.16	.0455	2,245.26	.....	197.10	.06
216	1942 Ford Station Wagon	63 948	16,708	1,012.23	.0606	1,335.58	.....	323.35	.06
217	1942 Ford Station Wagon	63 940	20,321	1,179.61	.0580	1,403.56	.....	223.95	.06
218	1939 Dodge 1-ton Pickup	64 364	22,199	2,455.11	.1106	2,785.10	.....	329.99	.11
219	1941 Chevrolet ½-ton Pickup	64 756	49,605	1,344.29	.0271	1,595.73	.....	251.44	.04
220	1946 Ford 4-door Sedan	30 736	7,112	116.01	.0163	214.00	.....	97.99	.03
225	1942 Pontiac Sedan Torpedo 8	64 495	70,462	1,832.71	.0260	1,961.06	.....	128.35	.03
226	1942 Pontiac Sedan Torpedo 8	64 493	68,628	2,912.22	.0424	2,787.21	125.01	.....	.05
227	1942 Pontiac Sedan Torpedo 8	64 494	29,422	849.89	.0289	999.99	.....	150.10	.03
228	1942 Chevrolet Sedan Sportmaster	64 480	60.539	2,010.99	.0332	2,050.78	.....	39.79	.04
229	1942 Chevrolet Sedan Special De Luxe	64 478	56,071	1,924.54	.0343	1,869.23	55.31	.....	.05
1160	Caterpillar Tractor	.....	4,379	7,831.96	1.7885 hr.	5,397.50	2,434.46	.....	3.00 hr.
1170	Plymouth Locomotive 8-ton	.....	20,374	4,452.46	.2185	5,474.13	.....	1,021.67	.20 mi.
1171	Plymouth Locomotive 20-ton	.....	12,015	6,780.13	.5643	7,615.27	.....	835.14	.57 mi.
1172	P. & H. Shovel	.....	840	2,543.48	3.0280 hr.	1,948.25	595.23	.....	3.25 hr.
1173	Rotary Snow Plow	.....	1,093	2,738.17	2.5052 hr.	2,810.26	.....	72.09	2.50 hr.
1174	Caterpillar Tractor	.....	4,247	6,669.86	1.5705 hr.	6,700.41	.....	30.55	1.60 hr.
1176	Plymouth Locomotive	.....	4,062	1,693.84	.4170	2,246.04	.....	552.20	.42 mi.
1177	Motor Driven Snow Plow	.....	171	1,089.48	6.3712 hr.	446.50	642.98	.....	6.50 hr.
1178	Caterpillar Tractor—Bulldozer	.....	777	1,147.43	1.4767 hr.	1,437.00	.....	289.57	1.50 hr.
1180	Gas Road Roller	.....	.....	3.25	....	.....	3.25	.....	1.50 hr.

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU

MONTHLY REPORT—AUTOMOTIVE EQUIPMENT OPERATIONS—Account No. 7051

For the Month of June, 1947, and for One Hundred Seventeenth Month Period Ending June 30, 1947

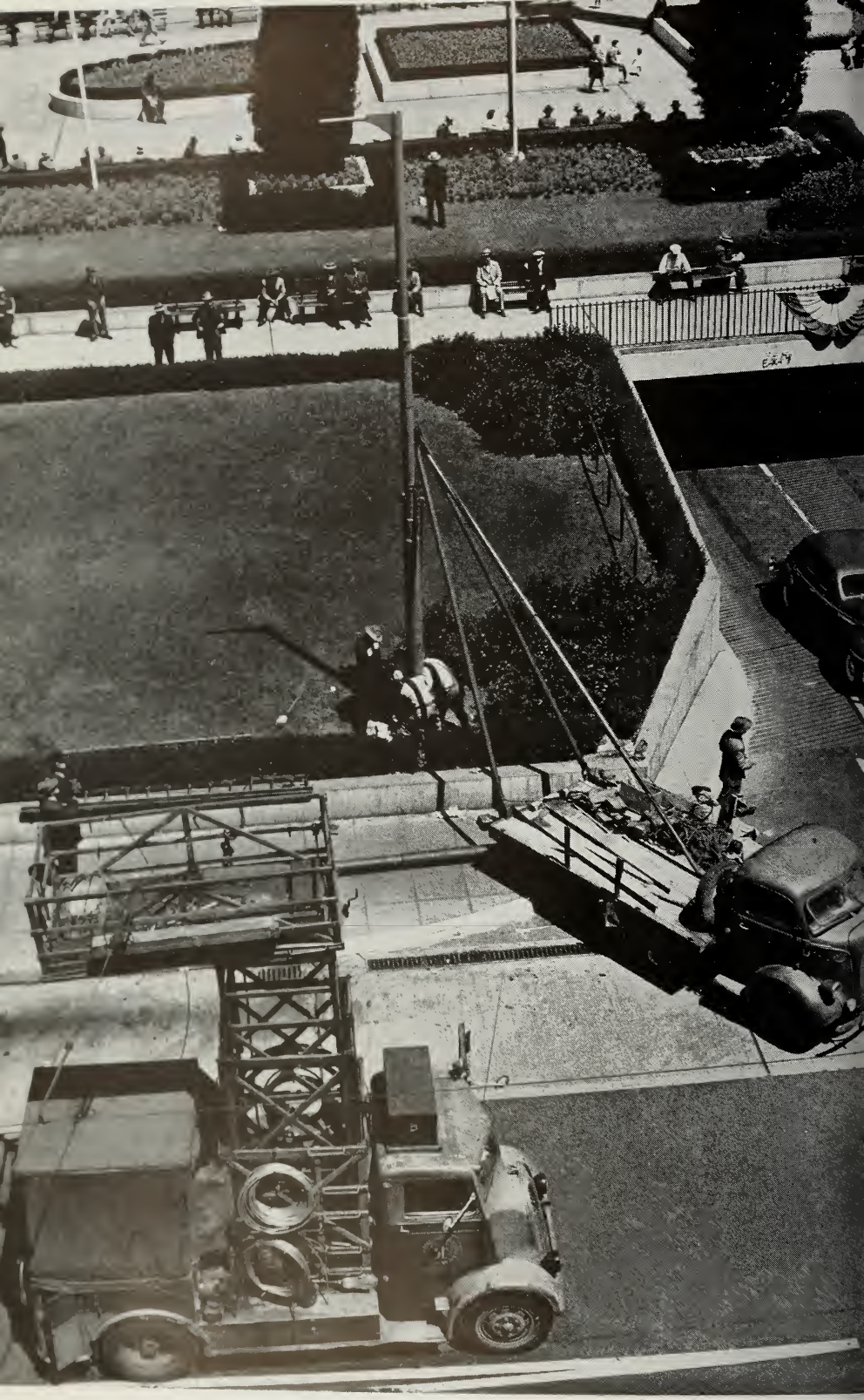
Car No.	Make and Model	License Number	June, 1947 Mileage	June, 1947 Gallons of Gasoline	June, 1947 Quarts of Oil	June, 1947 Miles per Gallon	November 1, 1937 to June 30, 1947 Cumulative Mileage	Gasoline	Quarts of Oil	Miles per Gallon
1-B	1942 Oldsmobile Club Coupe	E-65 686	691	37	..	18.7	49,045	3.041	142	16.1
2-B	1941 Chevrolet Coupe	62 136	811	57	..	14.2	52.941	3,327	192	15.9
3-A	1941 Chevrolet Carryall	62-142	1,371	118	3	11.6	75,697	6,228	433	12.2
4-B	1941 Chevrolet Canopy Express, ½-ton	62 823	607	62	9	9.8	37,173	3,019	176	12.3
5	1937 International Pickup	20 164	402	63	7	6.4	46,852	6.579	334	7.1
6-A	1941 Chevrolet Pickup, ½-ton	62 141	271	24	7	11.3	21,928	2,234	176	9.8
7-A	1937 International Pickup	20 166	426	32	22	13.3	38,292	4,165	230	9.2
8-A	1942 Chevrolet Tudor Sedan	63 755	205	30	2	6.8	9,055	1,030	56	8.8
9-B	1942 Chevrolet De Luxe Sedan	63 756	1,352	93	7	14.5	54,402	3,238	187	16.8
10-A	1942 Chevrolet De Luxe Sport Sedan	63 670	963	51	8	18.9	62,901	3,666	270	17.2
11-C	1946 Chevrolet Pickup ½-ton	29 389	1,402	77	5	18.2	19,988	1.259	80	15.9
12-B	1941 Chevrolet Coupe	62 008	2,647	197	3	13.4	137,001	8,259	439	16.6
13-A	1941 Ford Pickup ½-ton Closed Cab	61 991	525	54	2	9.7	48,771	4,805	356	10.2
14-A	1942 Chevrolet Pickup ½-ton	63 671	1,481	120	13	12.3	50,792	3,670	246	13.8
17	1937 Ford Closed Cab Truck 1½-ton	20 744	1,207	201	16	6.0	118,807	21,069	2,002	5.5
18-A	1947 Ford Pickup Truck	71 047	1,870	140	17	13.4	2,284	161	17	14.2
19	White Railroad Bus	.....	....	...	..	...	17,966	2,833	486	6.3
21	White Railroad Bus	.....	....	...	..	...	7,041	1,233	23	5.7
22	1946 Cadillac 4-door Sedan	70 081	2,550	209	2	12.2	10,140	884	17	11.5
29	1922 Buda Railway Speeder	.....	....	...	..	...	2,318	356	57	6.5
30	1922 Buda Railway Speeder	.....	....	...	..	...	2,009	236	27	8.5
31-A	1942 Nash Coupe	28 855	1,073	33	6	32.5	24,148	1,261	38	19.1
44	1945 Chevrolet Truck 1½-ton	29 357	938	86	12	10.9	20,593	1,999	71	10.3
45	1945 Chevrolet Truck 1½-ton	29 358	1,092	120	9	9.1	11,214	1,211	64	9.3
50	1946 F.W.D. Tractor	.....	778	285	15	2.7	4,380	1,465	62	3.0
51	1946 Trailmobile—Semi-trailer	.....	525	...	..	...	3,970	....	....	...
103-A	1941 Chevrolet Pickup ¾-ton	62 140	743	60	7	12.4	48,182	3,062	236	15.7
106	1920 White Truck ¾-ton	20 173	33	14	..	2.4	1,357	554	26	2.4
108	1920 White Truck ¾-ton	20 746	15	35	4	.4	4,410	2,192	229	2.0
112	1938 Ford Dump Truck 1½-ton	25 720	1,295	231	7	5.6	55,390	8,746	587	6.3
114	1937 Chevrolet Dump Truck	20 175	959	117	14	8.2	40,629	6,830	556	5.9

120	1924 White Truck 2-ton	20 747	....	...	..	...	6,909	2,138	244	3.2
121	1924 White Winch Truck 2-ton	20 176	23	23	2	1.0	13,575	4,279	179	3.2
123-SFWD	1938 Packard Sedan	32 286	2,430	257	11	9.5	5,427	604	24	9.0
130-SFWD	1941 Plymouth Station Wagon	65 195	1,227	112	11	11.0	31,467	2,942	171	10.7
131-SFWD	1941 Chevrolet Carryall	64 378	314	32	..	9.8	12,293	897	42	13.7
132-SFWD	1940 Chevrolet Station Wagon	65 200	1,033	92	9	11.2	61,267	4,656	176	13.2
200	1936 F.W.D. Truck 4/5-ton	20 177	526	164	9	3.2	32,668	9,810	549	3.3
201	1938 F.W.D. Line Truck 2½-3 ton	25 665	949	153	12	6.2	64,923	13,120	1,169	4.9
202	1936 F.W.D. Line Truck 1½-ton	20 178	537	188	17	2.9	39,255	10,188	598	3.9
206-A	1947 Chevrolet 1-ton Pickup	71 048	251	40	6	6.3	580	76	7	7.6
208-B	1947 Dodge Pickup ½-ton	70 615	943	72	7	13.1	3,085	215	15	14.3
209-B	1942 Mercury Town Sedan	28 995	310	10	..	31.0	19,664	1,557	69	12.6
210	1941 Chevrolet Suburban Carryall	62 737	1,359	97	9	14.0	46,488	3,851	237	12.1
211	1942 Ford Coupe	63 874	1,827	142	8	12.9	80,892	5,805	226	13.9
212	1942 Ford 4-door Sedan	63 947	1,361	92	6	14.8	55,922	4,000	178	14.0
213	1942 Ford Station Wagon	63 946	300	33	5	9.1	18,148	1,951	115	9.3
214	1942 Ford 4-door Sedan	64 053	565	60	11	9.4	14,742	1,266	103	11.6
215	1942 Ford Station Wagon	64 052	1,403	99	5	14.2	44,972	3,313	168	13.6
216	1942 Ford Station Wagon	63 948	388	40	..	9.7	16,708	1,626	79	10.3
217	1942 Ford Station Wagon	63 940	583	77	11	7.6	20,321	2,288	174	8.9
218	1939 Dodge 1-ton Pickup	64 364	409	47	5	8.7	22,199	2,425	170	9.2
219	1941 Chevrolet ½-ton Pickup	64 756	905	62	6	14.6	49,605	3,764	270	13.2
220	1946 Ford 4-door Sedan	30 736	705	43	3	16.4	7,112	435	33	16.3
225	1942 Pontiac Sedan Torpedo 8	64 495	2,226	164	5	13.6	70,462	4,796	151	14.7
226	1942 Pontiac Sedan Torpedo 8	64 493	1,446	100	2	14.5	68,628	4,753	209	14.4
227	1942 Pontiac Sedan Torpedo 8	64 494	836	79	1	10.6	29,422	1,936	139	15.2
228	1942 Chevrolet Sedan Sportmaster	64 480	1,346	104	12	12.9	60,539	3,528	266	17.2
229	1942 Chevrolet Sedan Spec. De Luxe Sportmaster	64 478	....	...	..	...	56,071	2,982	121	18.8
1160	Caterpillar Tractor	.....	123 hrs.	450	48	.3	4,378 hrs.	12,490	2,399	.4
1170	Plymouth Locomotive 8-ton	.....	....	...	..	...	20,374	7,066	391	2.9
1171	Plymouth Locomotive 20-ton	.....	77	20	..	3.9	12,015	13,530	1,126	.9
1172	P. & H. Shovel	.....	....	...	..	...	840 hrs.	2,198	50	.4
1173	Rotary Snow Plow—Railroad	.....	....	...	..	...	1,093 hrs.	1,107	100	1.0
1174	Caterpillar Tractor	.....	....	...	..	...	4,247 hrs.	10,841	1,868	.4
1176	Plymouth Locomotive	.....	....	...	..	...	4,062	1,912	65	2.1
1177	Motor Driven Snow Plow—Highway	.....	....	...	..	...	171 hrs.	418	96	.4
1178	Caterpillar Tractor—Bulldozer	.....	44 hrs.	136	60	.3	777 hrs.	2,745	1,055	.3
1180	Gas Road Roller	.....	....	...	..	..	.....	5	8	...

HETCH HETCHY ENGINEERING BUREAU
REPORT OF OPERATING ADVANCES, EXPENSES AND REFUNDS
Fiscal Year 1946-1947

Appropriation	Expenditures	Encumbrances	Adjustments	Total	Chargeable to: Municipal Railway	Chargeable to: H.H.W.S.	Chargeable to: H.H.P.D.	Advanced by: Municipal Railway	Advanced by: H.H.W.S.	Advanced by: H.H.P.D.	Advanced by: Total
568.111.02....	$36.74	.....	.....	$36.74	.....	.....	.....	.....	.....	.....	.....
.200.02....	200.16	.....	.....	200.16	.....	.....	.....	.....	.....	.....	.....
.300 02....	66.83	.....	.....	66.83	.....	.....	.....	.....	.....	.....	.....
.860 02....	2,590.90	.....	.....	2,590.90	.....	.....	.....	.....	.....	.....	.....
Total	$2,894.63	.....	.....	$2,894.63	$723.66	$1,447.31	$723.66	$724.12	$1,448.25	$724.12	$2,896.49
668.110.02....	$101,296.00	.....	.....	$101,296.00	.....	.....	.....	.....	.....	.....	.....
.111.02....	487.38	.....	.....	487.38	.....	.....	.....	.....	.....	.....	.....
.200.02....	2,587.23	$12,438.31	$280.09	15,305.63	.....	.....	.....	.....	.....	.....	.....
.300.02....	1,056.84	175.66	.....	1,232.50	.....	.....	.....	.....	.....	.....	.....
.400.02....	581.35	2,666.90	.....	3,248.25	.....	.....	.....	.....	.....	.....	.....
.812.02....	14.88	.....	.....	14.88	.....	.....	.....	.....	.....	.....	.....
.860.02....	1,155.37	.....	3,421.58	4,576.95	.....	.....	.....	.....	.....	.....	.....
Total	$107,179.05	$15,280.87	$3,701.67	$126,161.59	$50,464.64	$50,464.64	$25,232.31	$51,739.00	$51,739.00	$25,869.00	$129,347.00
Grand Total	$110,073.68	$15,280.87	$3,701.67	$129,056.22	$51,188.30	$51,911.95	$25,955.97	$52,463.12	$53,187.25	$26,593.12	$132,243.49
					Deduct Charges			$51,188.30	$51,911.95	$25,955.97	$129,056.22
					Refund			$1,274.82	$1,275.30	$637.15	$3,187.27

No advances from San Francisco Water Department in 1946-1947.
Hetch Hetchy Water Supply on a revenue basis from July 1, 1946.

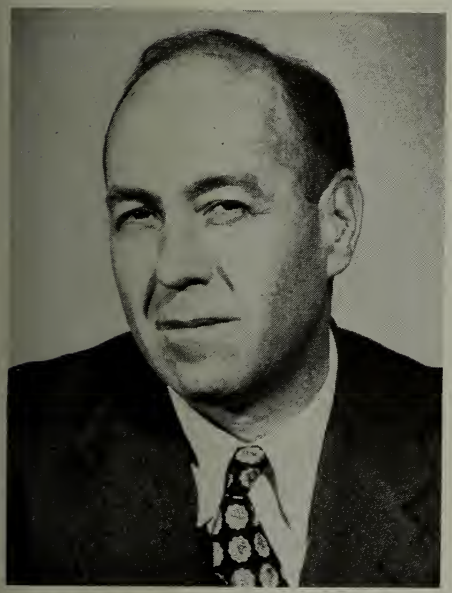


UNION SQUARE
Erecting electrolier for new mercury luminaire.

BUREAU OF LIGHT, HEAT AND POWER

B. A. DEVINE

Manager and Chief Engineer



B. A. DEVINE
Manager and Chief Engineer

Under the direction of B. A. Devine, Manager and Chief Engineer of the Bureau of Light, Heat and Power, several street lighting projects which were started last year were completed.

Material shortages still prevail and contractors have been unable to meet the time allotted their contracts, due to non-delivery of standards, luminaires, conduit and cable.

This Bureau also acts as the commercial department for Hetch Hetchy and the San Francisco Airport and prepares and renders all monthly bills (801) for disposal of this energy.

Street Lighting Operation:

The trend of street lighting operating cost (Table II) was downward for several years, due to restrictions imposed on street lighting during the war period. However, the last two years have shown a marked reversal of this trend.

One hundred and fifty-one new lights were installed in 1945-46, 254 in 1946-47, and with materials again becoming available we hope to install 500 during the coming year, the minimum required to meet new street and housing development.

At the close of the year, 25,294 lights were in service, of which 3,917 were city-owned, 2,318 jointly owned, and 19,078 owned by the Pacific Gas and Electric Company.

Table I shows a total expenditure of $838,758.65 for street lighting operations during the year. This total includes operation and maintenance costs for all lighting equipment in streets, parks, viaducts, tunnels and underpasses. The increase over last year's expenditure of $833,092.24 was due to new installations and also to an increase in the candlepower of a number of lamps.

The number of requests received by this Bureau for improved street lighting increased greatly during the year, due to construction of new homes in the various districts throughout the city.

Requests for shades on the house-side of lights were discouraged, because this tends to reduce street illumination by eliminating light reflected from buildings upon the sidewalk and street area.

AFTER RE-LIGHTING

Lombard Street, Laguna Street to Van Ness Avenue showing effect of re-lighting with 6000-lumen lamps.

With the cooperation of the Police Department, interested citizens and the Pacific Gas and Electric Company, and also inspections by this Bureau, the number of lights reported out totaled 49,435, representing a saving of $4,808.03 in outage credits.

All records of installations and revisions made during the fiscal year were entered on our record cards and maps by the end of July, 1947.

Table V shows collections made for damage to city-owned street lights during 1946-47, amounting to $3,926.09, of which the Bureau collected $3,199.95, an increase of $1,722.62 over the year 1945-46. No accounts were abandoned as uncollectible.

Table IX shows street lighting operations by months. Energy cost of $374,913.37 was paid to Hetch Hetchy and $456,767.95 was paid to the Pacific Gas and Electric Company for maintenance and fixed charges.

Table X shows the number and type of street lights in use and their ownership, both underground and overhead connected.

Engineering Construction:

The following contracts were entered into during the first part of 1947 and are scheduled for completion during 1948:

Cont. No.	Location
44	Geneva Avenue, Mission Street to Alemany Boulevard
46	Guerrero Street, Market Street to Army Street
48	Third Street, Alameda Street to Mariposa Street
49	Third Street, 23rd Street to Custer Avenue
50	Union Square, Powell, Post, Stockton and Geary Streets
52	Lyon, Baker and Bay Streets, Lombard Street to Marina Boulevard
53	Third Street, Custer Avenue to Bay Shore Boulevard
54	Clipper Street Extension, Douglass Street to Portola Drive
55	Seventh Street, Mission Street to Townsend Street
56	Powell Street, California Street to Broadway
57	Golden Gate Park Crossover and Bypass Drive
58	Tenth Street, Market Street to Division Street

During the year, real estate operators made considerable progress in the development of Miraloma Park, Laurel Heights and Apparel City. Rigid inspection of street lighting installations in these tracts was maintained by this Bureau.

Anzavista Tract was completed during the year by private owners, with lighting consisting of 63 one-light and 4 two-light 26-foot concrete pendent electroliers.

Two 2-light 26-foot pendent electroliers were installed by this Bureau at the intersection of Holloway and 19th Avenues as a safety measure at the request of the Police Department.

New lighting on Lombard Street, from Van Ness Avenue to Richardson Avenue, was completed, consisting of 59 two-light and 39 one-light 26-foot concrete pendent electroliers.

Nine one-light 16½-foot concrete upright electroliers were installed in Sherwood Forest.

Under the direction of the Department of Public Works, center island lighting was installed in Portola Drive, from Teresita Boulevard to Twin Peaks Boulevard, consisting of 12 two-light 26-foot concrete pendent electroliers.

One double-light electrolier was installed at the intersection of Third and Berry Streets.

Following is a list of all lighting projects for which plans and specifications have been completed and which were either initiated by this Bureau or are for use by real estate tract developers or the Department of Public Works:

Location	No. Lights	Nature of Work
Initiated by Bureau:		
Union Square	16	New Lighting
3rd St., Alameda St. to Mariposa St.	38	New Lighting
3rd St., 23rd St. to Custer Ave.	61	New Lighting
3rd St., Custer Ave. to Bay Shore Blvd.	155	New Lighting
O'Shaughnessy Blvd., Portola Drive to Congo St.	48	New Lighting
Army St., Harrison St. to Guerrero St.	65	New Lighting
Guerrero St., Market St. to Army St.	136	New Lighting
Guerrero St. and San Jose Ave., Army St. to Randall St.	67	New Lighting
Geneva Ave., Mission St. to Alemany Blvd.	10	New Lighting
5th St., Market St. to Townsend St.	70	Modernization
Harrison St., 5th St. to 10th St.	52	Modernization and Additions
Bryant St., 5th St. to 10th St.	52	Modernization and Additions
Lyon, Bay and Baker Sts. (Marina District)	28	New Lighting
Clipper Street Extension	20	New Lighting
6th St., Market St. to Townsend St.	73	Modernization
Geary St., Masonic Ave. to Divisadero St.	56	New Lighting
Irving St., 7th Ave. to 9th Ave.	14	New Lighting
Mission St., Silver Ave. to Onondaga Ave.	70	New Lighting
10th St., Market St. to Division St.	53	Modernization
Fell St., Market St. to Van Ness Ave.	7	Modernization
Army St., Bryant St. to Harrison St.	18	Modernization
Golden Gate Park Crossover Drive and Bypass	75	Modernization
Sloat Blvd., Junipero Serra Blvd. to Great Highway	88	Modernization
For Department of Public Works:		
Webster St., Duboce Ave. to Broadway	142	New Lighting
California St., 8th Ave. to 32nd Ave.	124	New Lighting
Pacific Ave., The Embarcadero to Larkin St.	106	New Lighting
Powell St., California St. to Broadway	34	New Lighting
Monterey Blvd., San Anselmo Ave. to Ridgewood Ave.	84	New Lighting
Anza St., Masonic Ave. to Parker Ave.	20	New Lighting
2nd St., Howard St. to Harrison St.	15	New Lighting
7th St., Market St. to Townsend St.	59	New Lighting
Russ St., Howard St. to Folsom St.	4	New Lighting
For Real Estate Operators:		
Miraloma Park	75	New Lighting
Apparel City	30	New Lighting
Laurel Heights	107	New Lighting
Anzavista Subdivision	70	New Lighting

FELL STREET, EAST FROM COLE

Studies were continued in connection with new developments in street lighting and also with relation to traffic flow. Manufacturers can now supply 20,000-lumen units, although our largest unit at present has a rating of only 10,000 lumens. Unfortunately, the larger units cannot be used with existing facilities without modification because of distribution and glare factors. The larger units have been considered in connection with new work, as the greater mounting heights will permit greater unit spacing, will give more light distribution and, in general, should provide a better job per dollar expended.

Gas and Electric Supply:

During the fiscal year, 750,082,000 cubic feet of natural gas and 164,128,666 kilowatt hours of electricity were used for municipal purposes, exclusive of street lighting. For these commodities the city paid $180,347.26 to the Pacific Gas and Electric Company for gas and $1,641,443.18 to the Hetch Hetchy for electric energy. These purchases were made through one steam, 440 gas and 801 electric accounts. Segregation and cost of the various accounts are shown in Table I.

The two accounts under rate schedule P-9 cover traction energy for the Municipal Railway, and the 55 D.C. and 31 A.C. meters involved are distributed in 13 substations. It is necessary to test these meters bi-monthly because of the large amount of energy used by the Railway. For the fiscal year and for traction energy only, the Railway used 118,818,720 kilowatt hours at a cost of $1,087,564.73.

The use of electricity for the year shows a decrease of 0.878 per cent as compared to the prior period. This decrease is reflected in part by the closing of 11 Civilian War Council and 2 Fire Service accounts, and a reduction in electricity usage of 36.6 per cent, 0.6 per cent and 3.1 per cent, respectively (as compared to the prior year), by the Fire Department, Municipal Railway and Water Department.

The apparent large decrease (36.6 per cent) in the usage of electricity by the Fire Department is only with respect to the electric energy supplied by the Hetch Hetchy. Due to technical and operating reasons, the Fire Department pumping plant at Fort Mason was transferred as of January 1, 1947, as a consumer, from Hetch Hetchy electric power system to Pacific Gas and Electric Company. The result is that the Fire Department is billed directly by the Pacific Gas and Electric Company, so the energy does not appear as being supplied by the Hetch Hetchy system to the Fort Mason pumping plant.

There are nine departments whose annual electric usages are over 1¼ million kilowatt hours, and of these the Airport and Board of Education show an increase over the prior year of 8.9 per cent and 5.1 per cent, respectively, brought about by substantial increases in general activities in these two departments.

The unit prices for gas and electricity have been analyzed by rate schedules in Tables No. VII and VIII. The average cost of electricity was 1.0001 cent per kilowatt hour and gas 2.3792 cents per hundred cubic feet.

During the year, there occurred three increases in the price of fuel oil, resulting in a total increase of from $1.15 to $1.55 per barrel. Two electric rate schedules (P-9 and P-30) which cover three of the larger accounts have fuel clauses which cause the energy rates to vary with the price of oil. This accounts for the average cost of 1.0001 cents per kilowatt hour as compared to 0.9697 cents per kilowatt hour of the prior year, an increase of 3.13 per cent.

The annual contract with the Pacific Gas and Electric Company provides for the purchase of all city gas requirements at the regular rate schedules, two

GUERRERO STREET, SOUTH FROM 21ST STREET

classes of which (GH and GS) are affected by the same change in the price of oil as affects the electric rate schedules. This Bureau found it advantageous to transfer 10 accounts from Schedule GH to Schedule G, thus realizing a saving for the city. The G accounts, of which there are 430, are not affected by a change in the price of oil. A "stopper" clause in this schedule allows no increase in the effective rate for any block above the effective rate of the next preceding block.

The annual contract with the Pacific Gas and Electric Company also provides for the purchase of street lighting services other than energy. The Company still has a large investment in the street lighting system of the city and supplies all of the maintenance for equipment, whether company- or city-owned.

The option of paying 2 cents per kilowatt hour for power or 2¾ cents for lighting is still maintained and is exercised by the Bureau in favor of the departments as soon as it is apparent from our surveys of plant operating cost that a saving can be accomplished, thus eliminating the annual adjustment of accounts.

The judicious application of the technical features of the various gas and electric rates is one of the most important functions of this Bureau. In order that the proper rates may be applied, it is necessary to maintain a constant physical survey of plant and cost for each account. This often discloses reasons for changes to plant or operation that will result in a lower cost. The Bureau recommends such changes and offers the design and inspection services required.

The cost of gas and electricity used by the various departments is shown by functions of the municipal government, as follows:

4 Utilities	$1,335,563.48	73.3%
16 Governmental Departments	260,901.12	14.3
10 Social and Recreational	110,422.00	6.1
1 Schools	114,908.74	6.3
	$1,821,795.34	100.0%

At the San Francisco Airport 16 tenants purchased 7,250,512 kilowatt hours of electricity from the city-owned distribution system through 25 meters at rates similar to those of the Pacific Gas and Electric Company for various types of services. A total of $74,676.70 was collected and credited to the Airport account. The cash profit on this resale amounted to $15,002.75.

Electrical energy used to pump water through the jointly owned line to the Coast Guard radio station near Sharp Park was billed and credited monthly by this Bureau to the Park Commission or Sheriff. The credit for pumping is determined by noting which department actually does the pumping for the particular month in question.

Thirty-four new gas and electric services were installed during the year, while 13 services were discontinued.

The Police Department summary of electricity used includes a sizeable account called Miscellaneous Traffic Devices, which lists all of the unmetered traffic sig-

nals and devices within the City and County. It is the function of this Bureau to bill this account each month on a flat basis per unit of time per type of signal. The past year's increased installation of modern traffic signals on Lombard Street, Richardson Avenue and 19th Avenue added a total of 175 units of the one-, two-, three- and four-light types.

Interdepartmental Work:

During the year the Bureau continued to furnish engineering services and advice (aside from street lighting) on matters relative to the use of gas and electricity. Typical examples are shown in the following list:

Park Department:

Central Water Works—Pumping Plant, Sewage Treatment: Revision of plans and specifications for electric power and controls.

Children's Playground—"Little Rec" Field Pumping Plant: Electric power and lighting plans and specifications.

Upper Vending Booth—Fleishhacker Playfield: Gas and electric service plans and specifications.

Hot House near Park Yard: Electric service plans and specifications.

Recreation Department:

North Beach Playground: Redesign plans and rewrite specifications for flood-lighting system.

Offices at 1625 Market Street: Plans and specifications for lighting system.

Funston Playground: Calculations and layout of "aiming" diagram for flood-lighting system.

deYoung Museum:

Lighting system plans for three separate and independent projects.

Department of Public Health:

County Hospital: Preliminary plans and specifications for electric feeder system.

Board of Education:

Old Ford Building: Preliminary plans for electric light and power.

THIRD STREET, KEY AVENUE TO QUESADA

To be reconstructed and relighted with 28-foot double pendent standards.

Water Department:

Irvington Pumping Plant: Completion of final details in plans and specifications.

University Mound Chlorinating Plant: Electric Service plans and specifications.

Pumping Plant at 36th Avenue and Clement St.: Electric service plans and specifications.

Water Department Building at 425 Mason St.: Lighting for 5th floor, plans and specifications.

Bureau of Architecture:

Supervisors' Offices: Lighting system plans and specifications.

Increase capacity of electric feeders at City Hall: Plans and specifications.

City Attorney's Office: Lighting system plans and specifications.

Recorder's Office: Lighting system.

Hall of Justice: County Jail No. 1—electric feeders and redesign of Hall of Justice switchboard. Plans and specifications.

The foregoing list of projects under interdepartmental work are those of a major nature. There are many ways in which this Bureau is occupied in serving any and all city and county departments which are not staffed and equipped to cope with the various problems regarding the general use of gas and electricity.

This Bureau's constant physical survey of all city properties—which is mandatory for our operation—is advantageous in rendering such services as operating cost surveys and reports; consultation and advice; special seasonal lighting problems; motor and other electric equipment testing; trouble shooting on distribution systems: electric meter testing and the ever present analyses of gas and electric rate schedules.

The Public Utilities Commission of the State of California has taken steps to investigate the matter of creating an electric rate schedule to be used by schools. In connection with this, the Board of Education obtained considerable historical data on past usages and costs from the comprehensive files of this Bureau. This information was then transmitted to the State Public Utilities Commission and a meeting of representatives of the State, Board of Education, School Managers' Association and this Bureau took place. The resulting discussion clarified the electric rates in force within the City and County of San Francisco and this data will be compared with other portions of the state. It is quite possible that school load factors, off-peak demands and other operating conditions will justify special rate considerations.

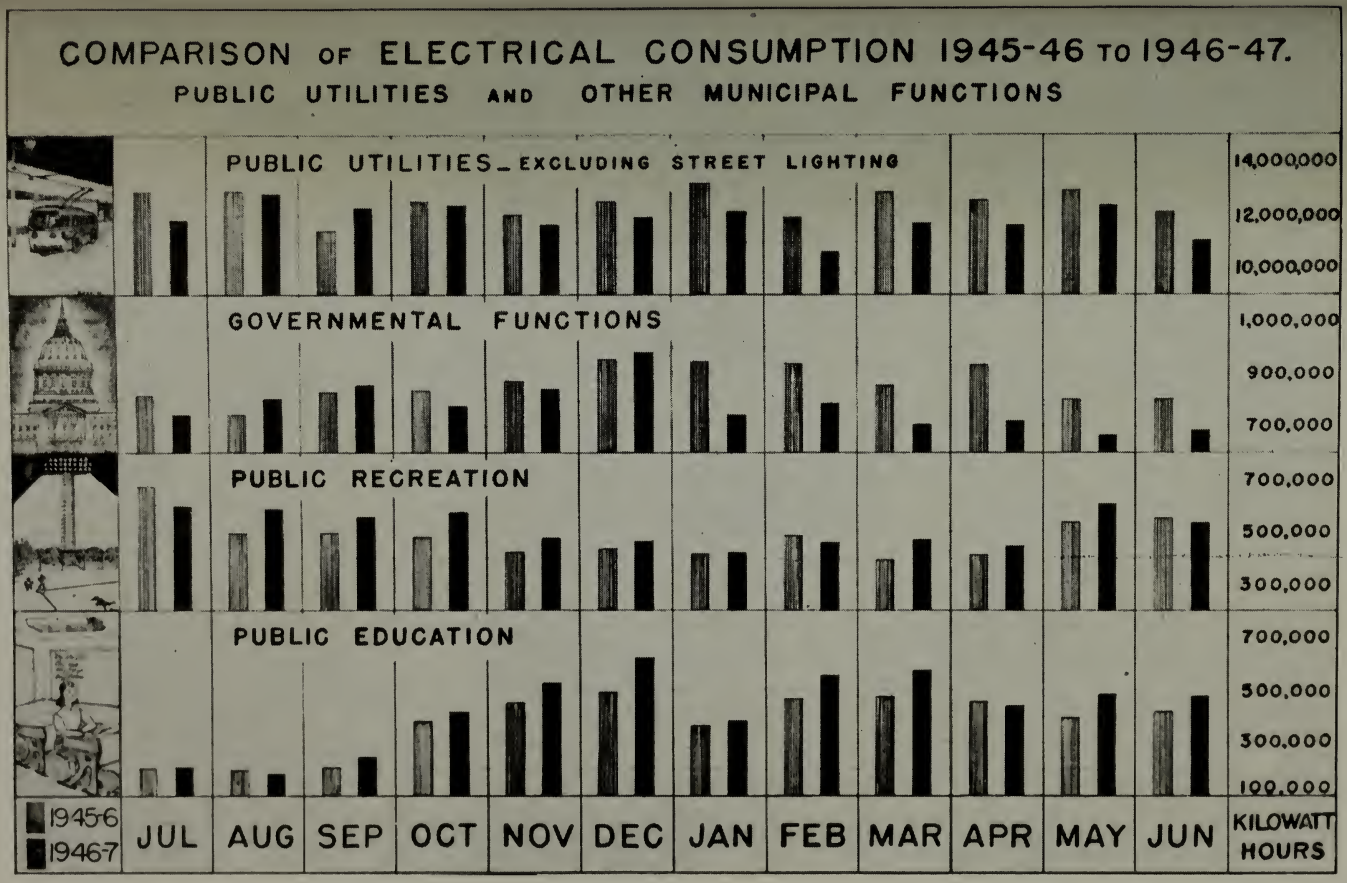

COMPARISON OF ELECTRICAL CONSUMPTION 1945-46 TO 1946-47.
PUBLIC UTILITIES AND OTHER MUNICIPAL FUNCTIONS
PUBLIC UTILITIES - EXCLUDING STREET LIGHTING
14,000,000
12,000,000
10,000,000
GOVERNMENTAL FUNCTIONS
1,000,000
900,000
700,000
PUBLIC RECREATION
700,000
500,000
300,000
PUBLIC EDUCATION
700,000
500,000
300,000
100,000
1945-6
1946-7
JUL
AUG
SEP
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
KILOWATT HOURS

TABLE No. I
EXPENDITURES FOR LIGHT, HEAT AND POWER FOR MUNICIPAL PURPOSES
1946-1947

GAS AND ELECTRIC SUPPLY:			
Electricity for Light and Power (excluding street lighting)	$1,641,443.18		
Gas for Heat and Power	178,456.11		
Steam for Heat	1,891.15	$1,821,790.44	
Adjustment		4.90	
Total			$1,821,795.34
STREET LIGHTING OPERATION:			
Gross Contract Cost		$836,489.35	
Less: Outages		4,808.03	
Net Operating Cost		$831,681.32	
Maintenance, Replacements and Repairs	$6,955.74		
Less Collections for Damages	3,926.29	$3,029.45	
Materials Purchased for Stock		$548.79	
Office Equipment		580.35	
Automotive Equipment		2,918.74	
Total			$838,758.65
ENGINEERING, SUPERVISION AND OFFICE EXPENSE			60,790.02
Total Expenditures for Light, Heat and Power			$2,721,344.01

TABLE No. II
REVIEW OF STREET LIGHTING COST
1931-1947

Fiscal Year	No. Lights at Close of Year	Expenditures	Per Cent of Taxes	Avg. Cost per Lamp per Year
1931-32	19,500	$855,289.34	...	$45.60
1932-33	17,369	762,938.84	3.10	43.93
1933-34	18,115	696,126.56	2.48	38.43
1934-35	20,383	698,701.94	2.32	34.28
1935-36	20,060	677,128.37	2.24	33.76
1936-37	20,576	674,869.86	2.15	32.79
1937-38	21,378	711,737.60	2.21	33.29
1938-39	22,028	728,786.00	2.18	33.08
1939-40	23,376	727,167.60	2.18	31.10
1940-41	24,504	780,130.33	2.29	31.82
1941-42	24,604	801,189.98	2.03	32.56
1942-43	23,873	761,471.28	2.05	31.89
1943-44	24,153	771,384.97	1.99	31.93
1944-45	24,889	821,092.24	2.02	32.99
1945-46	25,040	833,525.06	2.38	33.29
1946-47	25,294	838,758.65	2.28	33.16

TABLE No. III
NEW CITY-OWNED STREET LIGHTING CONSTRUCTION COMPLETED DURING 1946-47

Location	No. of Lights	Financed by	Value
Sherwood Forest: Lansdale Avenue, Dalewood way to Robinhood Drive; Casitas Ave., Lansdale Ave. to Cresta Vista Drive	9	Bureau of Light, Heat and Power	$3,619.59
Intersection of Holloway and 19th Avenue	4	Bureau of Light, Heat and Power	907.50
Sloat Boulevard: 34th Avenue and Springfield Drive	4	Bureau of Light, Heat and Power	67.15
Bay Shore Boulevard at Army Street	2	Municipal Railway	1,110.00
Third Street at Berry Street	2	Department of Public Works	1,021.25
Portola Drive: Teresita Boulevard and Twin Peaks Boulevard	12	Department of Public Works	5,375.00
Lombard Street and Richardson Avenue: Van Ness Avenue to Lyon Street	157	Bureau of Light, Heat and Power	36,810.30

REVIEW OF STREET LIGHTING COST

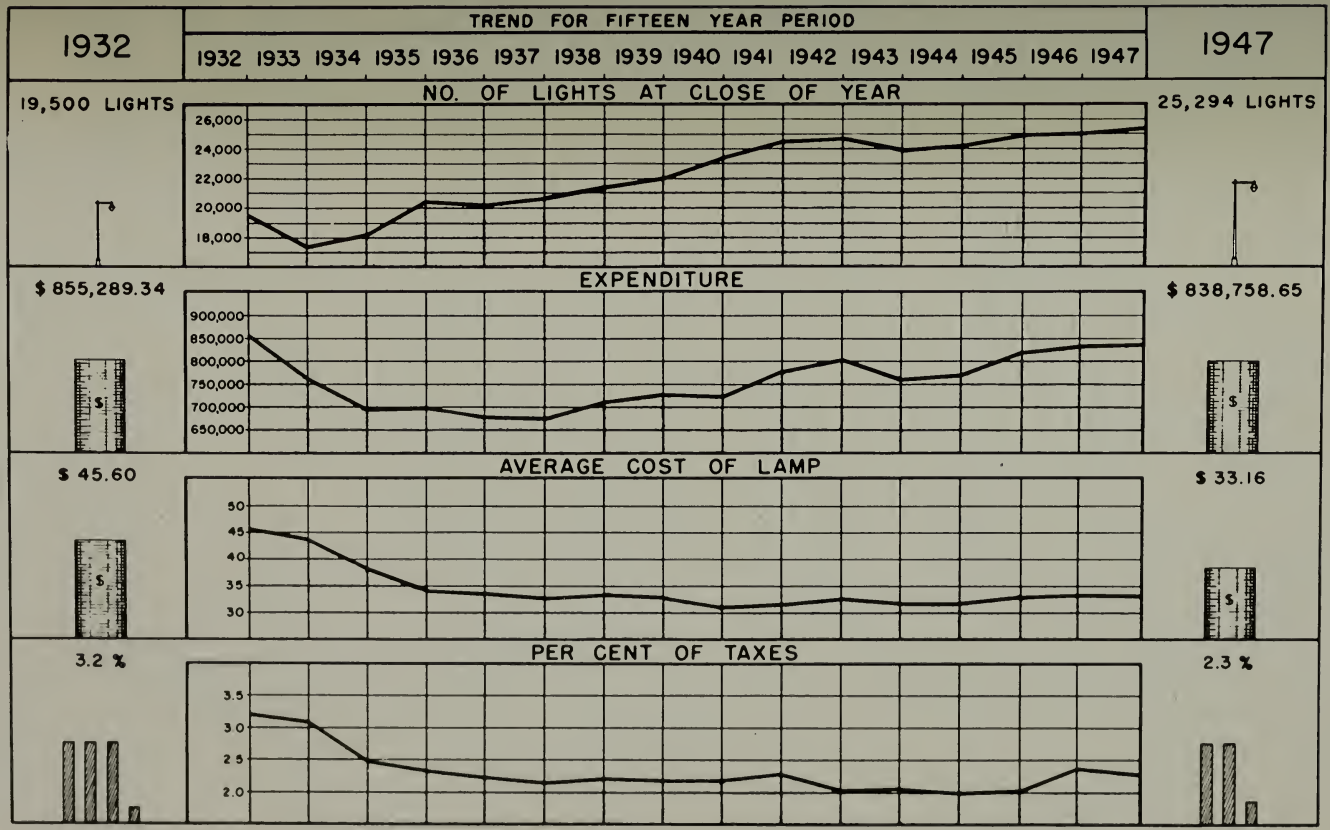


TABLE No. IV
INVESTMENT IN CITY-OWNED STREET LIGHTING

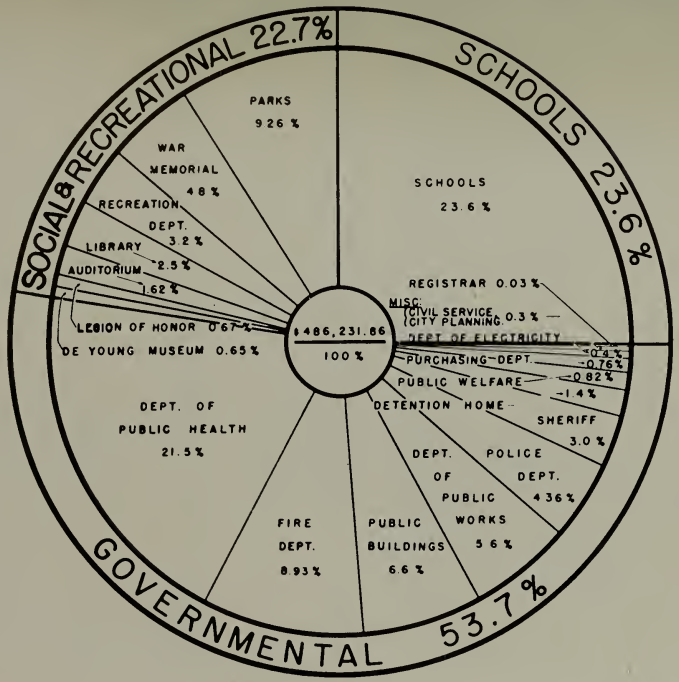
	City Funds			Federal Funds		Property	
	D.P.W.	P.U.C.	Park	W.P.A.*	P.W.A.	Owners	Total
Prior to July 1, 1932	$223,185	.....	....	.....	.....	$22,370	$245,555
Fiscal Year 1932-33	37,288	.....	....	.....	.....	.....	37,288
1933-34	71,005	.....	....	.....	.....	.....	71,005
1934-35	18,618	$93,550	....	.....	.....	6,652	118,820
1935-36	9,540	15,110	....	$11,745	$3,847	7,649	47,891
1936-37	22,863	172,079	....	67,463	17,411	33,049	312,865
1937-38	15,069	69,805	....	112,191	.....	14,444	211,509
1938-39	13,721	6,458	....	48,033	.....	25,353	93,565
1939-40	7,072	9,957	....	75,380	.....	14,339	106,748
1940-41	10,910	5,380	....	45,376	.....	40,827	102,493
1941-42	2,445	1,980	....	13,720	.....	32,800	50,945
1942-43	8,345	3,969	....	.....	.....	3,718	16,032
1943-44	4,902	470	....	.....	.....	371	5,743
1944-45	.....	450	....	.....	.....	5,738	6,188
1945-46	.....	298	$1,166	.....	.....	350	1,814
1946-47	500	41,938	....	.....	.....	.....	42,438
Total, June 30, 1947	$445,463	$421,444	$1,166	$373,908	$21,258	$207,660	$1,470,899
Less Portion Removed							9,708
Remaining Original Cost, June 30, 1947							$1,461,191
Accrued Depreciation, June 30, 1947							750,778
Depreciated Value as of June 30, 1947							$710,413
Reasonable Annual Depreciation Expense (Fiscal Year 1947-48)							$68,392
Average Rate of Depreciation							4.80%

*Includes City's Sponsorship Proportion.

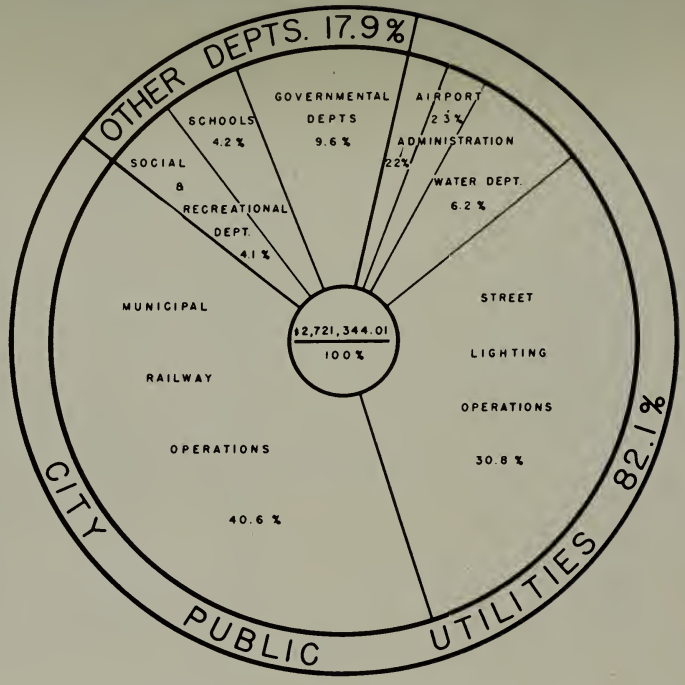
TABLE No. V
STATEMENT OF CLAIMS BILLED AND COLLECTIONS MADE FOR DAMAGE TO CITY-OWNED STREET LIGHTING EQUIPMENT
July 1, 1946 to June 30, 1947

	Bureau of Light, Heat and Power	Bureau of Delinquent Revenue	Total
Accounts Receivable:			
July 1, 1946	$873.91	$4,062.37	$4,936.28
Claims filed during year	5,354.19	.....	5,354.19
Transfers	887.58	887.58	.....
Total	$5,340.52	$4,949.95	$10,290.47
Credits:			
Collections during year	$3,199.95	$726.34	$3,926.29
Accounts abandoned; uncollectible	.....	1,136.95	1,136.95
Total	$3,199.95	$1,863.29	$5,063.24
Accounts Receivable, June 30, 1947	$2,140.57	$3,086.66	$5,227.23

DIVISION OF ANNUAL EXPENDITURES



GAS AND ELECTRICITY BY DEPARTMENTS OTHER THAN THE PUBLIC UTILITIES



GAS AND ELECTRICITY BY FUNCTIONS

TABLE No. VI
DEPARTMENTAL GAS AND ELECTRICITY
CONSUMPTION AND EXPENDITURES

CONSUMPTION — Electricity — No. Accts.	KWH	Gas — No. Accts.	C/Cu. Ft.	Department	EXPENDITURES — Electric	Gas	Total	Credits and Adjustments	Inter-Dept. Transfers	Totals
3	7,707,966	3	57,181	Airport	$59,917.39	$2,222.05	$62,139.44	.....	.....	$62,139.44
7	733,720	1	584	Auditorium	10,280.08	28.20	10,308.28	.....	—$2,352.35	7,955.93
8	2,470,764	2	624	Building Lighting	29,725.77	23.92	29,749.69	.....	+2,422.58	32,172.27
1	2,070	..	.....	City Planning Commission	50.23	.....	50.23	.....	.....	50.23
..	.....	2	1,890	Civil Service Commission	.....	73.51	73.51	.....	.....	73.51
4	156,574	..	.....	deYoung Museum	3,189.64	.....	3,189.64	.....	.....	3,189.64
2	3,060	2	1,612	Dormitories	84.16	61.07	145.23	.....	—70.23	75.00
272	5,110,083	156	503,186	Education	100,023.62	14,885.12	114,908.74	.....	.....	114,908.74
5	77,136	2	11,368	Electricity	1,491.45	423.54	1,914.99	.....	.....	1,914.99
..	.....	1	52	Employees' Retirement System	.....	3.40	3.40	.....	.....	3.40
1	1,044	..	.....	Farmers Market	28.74	.....	28.74	.....	.....	28.74
67	1,786,566	99	364,426	Fire	29,542.24	13,841.88	43,384.12	.....	.....	43,384.12
1	365,040	5	229,150	Hassler Health Home	4,746.97	6,490.28	11,237.25	.....	.....	11,237.25
18	741,609	18	3,875,360	Health	13,169.80	80,227.70	93,397.50	.....	—301.80	93,095.70
2	3,232	..	.....	Hetch Hetchy Power Operation	151.49	.....	151.49	.....	.....	151.49
2	384	..	.....	Hetch Hetchy Water Supply	44.49	.....	44.49	.....	.....	44.49
4	142,550	1	6,254	Juvenile Court and Det. Home	2,723.16	231.30	2,954.46	.....	.....	2,954.46
..	.....	1	2,758	Laguna Honda Girls' School	.....	107.22	107.22	.....	.....	107.22
5	163,400	..	.....	Legion of Honor	3,246.03	.....	3,246.03	.....	.....	3,246.03
25	571,990	23	41,580	Libraries	10,454.66	1,662.84	12,117.50	.....	.....	12,117.50
6	101,488	..	.....	Log Cabin Ranch School	3,026.22	.....	3,026.22	.....	.....	3,026.22
34	119,998,906	14	60,061	Municipal Railway	1,103,041.95	2,257.24	1,105,299.19	.....	.....	1,105,299.19
1	15,270	1	8,276	Ocean View School for Girls	383.90	303.61	687.51	.....	.....	687.51
75	2,501,559	24	228,936	Park	38,808.11	6,194.89	45,003.00	.....	.....	45,003.00
62	738,244	14	53,394	Police	18,508.07	2,023.68	20,531.75	.....	+630.38	21,162.13
2	111,462	1	2,169,000	*Public Welfare	2,089.30	1,891.15	3,980.45	.....	.....	3,980.45
35	1,953,121	6	27,890	Public Works	26,189.49	1,043.13	27,232.62	.....	.....	27,232.62
11	144,974	4	14,742	Purchasing	3,137.55	561.17	3,698.72	.....	.....	3,698.72
11	13,982	4	22,618	Real Estate Purchases	367.68	869.59	1,237.27	.....	.....	1,237.27
64	443,116	32	26,805	Recreation	13,374.05	1,173.90	14,547.95	+$4.90	.....	14,552.85
6	29,722	4	3,909	Recreation—Teen Age Centers	749.76	168.99	918.75	.....	.....	918.75
3	4,640	2	674	Registrar	127.65	38.61	166.26	.....	.....	166.26
2	660,600	3	301,907	Sheriff	7,600.23	7,416.40	15,016.63	.....	—328.58	14,688.05
2	1,312,400	3	199,391	War Memorial	17,947.80	5,415.50	23,363.30	.....	—6,802.94	16,560.36
..	.....	..	.....	War Memorial Art Museum	.....	.....	.....	.....	+6,802.94	6,802.94
58	16,037,698	12	1,452,810	Water	136,735.58	30,577.89	167,313.47	.....	.....	167,313.47
2	24,296	1	3,382	Water Dept. Yard	485.92	129.48	615.40	.....	.....	615.40
801	164,128,666	441	7,500,820	Total	$1,641,443.18	$180,347.26	$1,821,790.44	+$4.90	.....	$1,821,795.34

*Public Welfare: 2,169,000 lbs. of Steam.

TABLE No. VII
PURCHASE OF ELECTRICITY BY SCHEDULES
Lighting and Miscellaneous Use

Schedules	No. Accts.	KWH	Cost	Cost per KWH Cents
$.0275	224	435,572	$11,983.56	2.7512
C-1	45	13,390,968	173,951.58	1.2990
C-6	5	8,221,996	68,585.42	.8342
D-1	5	53,772	685.11	1.2741
D-5	2	7,790	145.76	1.8711
D-6	6	52,936	824.06	1.5567
DA-6	2	37,310	598.36	1.6038
L-1	239	4,153,535	97,792.74	2.3544
L-5	2	50,242	1,434.77	2.8557
L-6	16	154,084	5,108.09	3.3151
L-21	2	794	40.04	5.0428
L-31	1	285	40.80	14.3158
L-34	4	136,980	1,650.48	1.2049
L-35	2	8,334	243.44	2.9210
Total	555	26,704,598	$363,084.21	1.3596

For Power

$.02	202	1,485,216	$29,712.62	2.0006
H-1	5	148,592	1,965.08	1.3225
P-1	8	157,180	2,652.95	1.6878
P-2	1	50	26.98	53.9600
P-3-13	8	1,394,541	18,299.37	1.3122
P-7	2	272,600	5,388.98	1.9769
P-9	2	118,818,720	1,087,564.73	.9153
P-15	11	3,139,084	37,755.05	1.2027
P-17	1	182,630	3,395.80	1.8594
P-30	1	11,600,000	81,919.56	.7062
Totals	241	137,198,613	$1,268,681.12	.9247
Contract	2	225,455	$6,493.55	2.8802
Schedule 1	1	.....	60.62	....
Schedule 10	1	.....	90.53	....
Schedule 16	1	.....	3,033.15	....
Total	5	225,455	$9,677.85	4.2926
Grand Total	801	164,128.666	$1,641,443.18	1.0001

TABLE No. VIII
PURCHASE OF GAS BY SCHEDULES
For General Use

Schedule	No. Accts.	Cubic Feet	Cost	Cents per 100 cu. ft.
G-1	414	96,302,600	$36,269.31	3.7662
G-5	3	1,649,000	694.09	4.2092
G-6	13	7,602,000	3,105.07	4.0845
Total	430	105,553,600	$40,068.47	3.7113
For General Heating				
GH-1	3	59,673,200	$16,324.03	2.7356
GH-2	2	24,243,200	6,978.57	2.8786
Total	5	83,916,400	$23,302.60	2.7769
For General Heat and Power				
GS-1	4	533,400,000	$108,799.64	2.0397
GS-2	1	27,212,000	6,290.30	2.3116
Total	5	560,612,000	$115,089.94	2.0529
Gas Total	440	750,082,000	$178,461.01	2.3792
Steam S-1	1	2,169,000 lbs.	$1,891.15	8.7190 cwt.
Grand Total	441	.....	$180,352.16	....

TABLE No. IX
STREET LIGHTING OPERATION BY MONTHS—1946-1947
Kilowatt Hours, Maintenance and Fixed Charges

	KWH	Cost	Maintenance and Fixed Charges	Total Cost
July	1,829,859	$24,337.75	$46,113.26	$70,451.01
August	2,011,014	26,774.29	43,567.47	70,341.76
September	2,232,554	29,762.73	38,317.78	68,080.51
October	2,609,829	34,828.35	35,584.07	70,412.42
November	2,724,118	36,374.26	32,040.52	68,414.78
December	2,941,261	39,286.11	31,068.45	70,354.56
January	2,895,829	38,714.78	31,848.27	70,563.05
February	2,428,420	32,452.08	31,143.09	63,595.17
March	2,456,994	32,765.60	37,986.76	70,752.36
April	2,154,568	28,707.40	40,012.29	68,719.69
May	2,038,765	27,140.29	43,951.88	71,092.17
June	1,787,462	23,769.73	45,134.11	68,903.84
Total	28,110,673	$374,913.37	$456,767.95	$831,681.32

TABLE No. X
NUMBER AND TYPE OF STREET LIGHTS IN USE

	Jointly owned		City owned		Company owned	
	In service June 30					
	1946	1947	1946	1947	1946	1947
Series Incandescent:						
Underground connected:						
10,000 lumens	123	123	526	526	73	73
6,000 lumens	698	695	1,788	1,942	529	534
4,000 lumens	696	694	714	722	2,892	2,872
2,500 lumens	403	416	466	466	366	366
1,000 lumens	256	243	...	...	....	....
1,000 watts	...	...	8	8	....	....
500 watts	4	4	...	...	....	....
300 watts	143	143	8	8	278	278
200 watts	...	...	50	50	12	12
150 watts	...	...	10	10	....	....
100 watts	...	...	6	6	12	12
60 watts	...	...	156	156	....	....
50 watts	...	...	4	4	....	....
Overhead connected:						
10,000 lumens	...	...	...	...	17	17
6,000 lumens	...	...	...	...	323	372
4,000 lumens	...	...	...	...	13,046	13,116
2,500 lumens	...	...	...	...	378	375
300 watts	...	...	...	...	17	17
200 watts	...	...	...	...	11	11
Special:						
Sodium Vapor:						
10,000 lumens	...	...	19*	19*	....	....
Magnitite Arcs:						
15,000 lumens	...	...	...	...	1,027	1,023
Total	2,323	2,318	3,755	3,917	18,981	19,078

Grand Total—1946, 25,059; 1947, 25,313—254 new lights.

*Maintenance by work order.

NEW LAND

The aerial view of San Francisco Airport above showed the new land (in white) created from earth fill as of June,

SAN FRANCISCO AIRPORT DEPARTMENT

B. M. DOOLIN
Manager and Chief Engineer

B. M. DOOLIN
Manager and Chief Engineer

Foreword:

The San Francisco Airport—with all phases of its activity increasing almost daily—is one of the nation's most progressive airports.

Ten years ago the volume of scheduled air carrier activity was only one-sixteenth of what it is today; yet the aviation potentialities in the Bay Area have, as yet, scarcely been touched. The next decade will see aviation become one of the foremost factors in the Bay Area economic picture. The Airport Department in its annual report of a decade ago, stated "precautions must continually be taken to provide tomorrow's facilities today." This statement is still true and thanks to the wisdom and foresight of San Franciscans, the Airport is providing "tomorrow's facilities today."

San Francisco Airport is at the mid-point of an expansion program which will provide our City with the finest airport facilities available anywhere. The voters' overwhelming approval of the 1945 Airport Bond Issue has already been justified since aviation is now San Francisco's eleventh largest industry. Even though the expansion program will require 2½ years before completion, the Bay Area received a 125 per cent economic return in one fiscal year on the Airport's total investment to date. This yield will grow as the Airport development matures.

Although confronted with the problem of accommodating an ever increasing volume of air carrier activity, the vast expansion program now underway is being carried on without interruption. The success of this simultaneous operating and construction program is evidenced by the remainder of this report.

Summary of Activities:

The total number of people employed by tenants of the Airport increased to 5,800 persons and at the close of the fiscal year, the annual payroll amounted to $19,000,000. This represents an increase of 11½ per cent over June, 1946, or a payroll gain of $1,500,000 in one year.

During the past fiscal year, the Airport revenue estimates have increased by 265 per cent as indicated by comparing the estimated revenues as set forth in the

annual appropriation ordinance for the fiscal years 1945-1946 and 1947-1948. According to the annual appropriation ordinance, estimated revenues for the fiscal year 1945-1946 amounted to $133,796, as compared with $488,337 for 1947-1948. NO OTHER AIRPORT IN THE NATION HAS EVER HAD SUCH AN UPSURGE IN REVENUE WITHIN SO SHORT A PERIOD.

During the fiscal year, 1946-1947, the Airport Department generated a revenue of $362,242 which was $21,597 in excess of the revenue estimated for the period. Furthermore, during this same period, the Airport Department effected budget savings totaling $58,717 as compared with anticipated expenditures. As the result of these revenues exceeding budget estimates, plus the savings on anticipated expenditures, the Airport Department developed an excess of $80,314 during this fiscal year.

This fiscal year produced an ever increasing volume of business. Its activities never ceasing, the Airport operated on a 24 hour a day basis 365 days of the year, and air travelers always found service available. More people now use the Airport facilities than ever before—in fact the number of passengers traveling through the Airport during this last fiscal year was equivalent to the combined populations of San Francisco and most of the Peninsula.

San Francisco's position as the hub of air transportation on the West Coast has been strengthened during the past twelve months by the inauguration of new routes and the augmenting of scheduled services. These new avenues of transportation, available to San Franciscans, enabled them to have a choice of scheduled airlines regardless of the direction in which they wished to travel. Northbound passengers are served by two air carriers; eastbound passengers by three; southbound passengers by three; and, westbound overseas and international passengers by four air carriers.

Numerous small communities within California and Oregon are readily reached over the operational network of one of the nation's leading feeder line air carriers.

The scheduled air carriers based at or operating from the San Francisco Airport are, Pan American World Airways, Southwest Airways, Transcontinental and Western Air, United Air Lines, and Western Air Lines; additionally, American Air Lines has been granted authority by the Civil Aeronautics Board to inaugurate service into San Francisco and it is anticipated flight operations will commence by September, 1947.

The number of scheduled air carrier flights increased 20 per cent over the number of such flights a year ago. In June, 1946, an average of 159 scheduled air carrier flights operated each day. By June, 1947, the average had increased to 191 per day, or an arrival or departure every 7½ minutes of the day and night.

The Airport's number of revenue air carrier passengers in and out showed an even greater increase by climbing from 722,000 in 1945-1946 to 980,000 in 1946-1947—an increase of 36 per cent. Passenger statistics show a greater gain than the scheduled air carrier flights due to the increasing use of four-engine aircraft with considerably larger passenger carrying capacity.

The Civil Aeronautics Administration disclosed that in the month of June, 1947, a total of 1,065,000 revenue passengers were carried by the nation's domestic air carriers; 8.7 per cent of that total utilized the San Francisco Airport as an arrival or departure point. This constitutes a substantial proportion of the nation's air carrier activity and represents an increase in the utilization of the San Francisco Airport's facilities, inasmuch as a comparable figure for a year ago amounted to 7.6 per cent.

During the year, the Airport maintained its outstanding record in serving air carriers; 98 per cent of all scheduled air carrier flights scheduled to operate were completed, as compared with the national average of approximately 90 per cent.

One of the sharpest upswings in air carrier activity was that recorded in air express shipments; pounds of air express carried through the San Francisco Airport increased 55.9 per cent in one year—a rise from 3,653,085 pounds to 5,698,168 pounds.

The sole exception to the general upward trend in all Airport activities was the 58 per cent decrease in airmail handled. This marked decline was due to the withdrawal of most of our armed forces from the Pacific area. The last two months of this fiscal year, however, actually showed an increase over the same two months of the previous fiscal period—this being indicative of the halt of the downward trend.

Local and itinerant civilian flying increased and our available plane parking area became taxed to capacity. The number of privately or corporation owned airplanes based at the San Francisco Airport increased 61 per cent over the figure of the previous fiscal year—reaching a total of 45 in addition to a constant flow of itinerant aircraft. When completed, the Airport will have full storage and service facilities for the accommodation of over 350 private aircraft. At this time, however, our facilities are extremely limited due to the construction work.

The Airport Department, after long study and careful analysis, devised and the Public Utilities Commission and the San Francisco Board of Supervisors approved and adopted, respectively—a rate structure for scheduled air carrier operations based upon the aircraft's "disposable load"—the disposable load being the weight differential between the aircraft's empty weight with standard equipment and the standard gross weight of the aircraft. Consequently, as larger aircraft are placed in scheduled service, the passengers or cargo capacity increases, resulting in an increased disposable load and, in turn, in an increased revenue for the Airport even though the number of airplanes using the Airport facilities remains constant. By establishing a rate for scheduled air carriers predicated on a disposable load basis, the Airport Department is able accurately to project anticipated future revenues.

The majority of airports throughout the country utilize a flat charge per airline schedule, although some use a sliding scale to obtain proper compensation from the air carriers employing the airport as an arrival or departure point. Upon analysis, it is apparent that this type of charge makes no provision for relating the amount of traffic generated by the air carrier to the amount of revenue received by the airport. The trend toward larger aircraft has resulted in a steadily increasing number of passengers carried per schedule. Thus, a charge based only upon the number of schedules will remain the same even though the number of people using the airport facilities may increase manyfold.

The San Francisco Airport rates and charges structure constitutes a comprehensive analysis of all types of airport charges and is now being used as a model by various agencies interested in a realistic approach to the problem of obtaining increased airport revenue.

Construction is under way on the portion of the Bayshore Freeway from South San Francisco and Burlingame. By the end of this year when that portion of the Freeway is open to traffic, the present highway will become an Airport service road and the usable Airport area will be increased considerably. From a safety standpoint, moving the high-tension transmission lines from their present position

along the Bayshore Highway to a destination paralleling the new Bayshore Freeway will eliminate a potential hazard.

San Francisco Airport has not had a serious accident involving any passengers during the past fiscal year. The Airport emergency equipment is always ready to respond to all emergencies, but during the past year all the responses have been in the nature of a precautionary measure.

Pan American World Airways System:

From California to Calcutta, from Alaska to Australia, the flying Clippers of the Pacific-Alaska Division of Pan American World Airways, with headquarters at San Francisco Airport, have blazed a network of air trails during the past year that have brought every major city of the South Pacific and the Orient within a matter of hours of San Francisco.

Here, in brief, is the story of the Division's operations:

Routes:

Today, the Pacific-Alaska Division flies a total of nearly 27,000 route miles across the Pacific, and an additional 5,800 miles in the Alaska region.

In January, 1947, service began to Manila, Philippine Islands, and Sydney, Australia. June was a big month for pasenger flying out of San Francisco along PAA's far-flung routes, for it marked the start of service to Shanghai, and later a new era in aviation history with inauguration of the first direct one-carrier commercial air service circling the globe in both directions.

From Pan American's terminal at San Francisco these routes now stretch across the Pacific to Honolulu, Sydney, Auckland, the Fiji Islands, Noumea, Guam, Manila, Tokyo, Hong Kong, Shanghai, Bangkok and Calcutta.

At Calcutta, the Pacific Clippers made direct connections with PAA's Atlantic Clippers flying to New York via Karachi, Istanbul, Damascus, London, and New York, providing the first one-carrier round-the-world service in history.

The trans-Pacific Clippers, with schedules ranging from several times daily to one-weekly, have, as ports of call, once remote Pacific islands on which Pan American constructed complete air bases in the days before the war,—such as Canton, Midway, and Wake, scene of the historic U.S. Marines defense against the Japanese. There are two major routes westward from Honolulu. One is the South Pacific, serving Australia and New Zealand, the other all-weather Central Pacific route to the Orient.

Travel Times:

With the introduction of faster aircraft and the elimination of overnight stops at the islands en route, remarkable strides have been made during 1947 in shortening the time required to travel across the Pacific.

For example, the Clipper traveler setting out from San Francisco now reaches Sydney in 48 hours, Manila in 44 hours, Tokyo in 37 hours, and Hong Kong in 49 hours travel (i.e., elapsed) time.

A Clipper flight around the globe from San Francisco to New York can be made in less than a week.

CLIPPER "WESTWARD HO"
This Pan American World Airways DC 4 flew the "survey" flights for the line's around-the-world route.

Equipment:

Before the war, Pan American pioneered the Pacific air routes with flying boats. However, operations during the war demonstrated that land-based aircraft are even safer, far faster, and more efficient than the flying boat.

1947 Clipper: Today, both the Pacific and Alaska services are flown exclusively with Douglas-built Clippers of the DC-4 type. These big four-engine land planes, with a wingspan equal to the height of a six-story building, have been thoroughly tested throughout many millions of miles of wartime and postwar operations everywhere in the world.

Future Pacific operational plans call for the operation of giant Boeing Stratocruiser Clippers. These "big brothers of the B-29's" will dwarf in size, speed and passenger comfort anything being flown commercially today.

The Sleeperette: The outstanding contribution to air passenger comfort of the postwar period is the Sleeperette chair-lounge, developed by the Pacific-Alaska Division and introduced as standard equipment on all Pacific Clippers in June, 1947. These unique seating units consist of a reclining chair and adjustable leg rest, both cushioned in foam rubber. Providing double the leg room found in conventional aircraft seating, the Sleeperettes are adjustable to a number of different positions and permit passengers to stretch out full-length for both day and night travel. Curtains around each seat provide compartment privacy. Folded into the bottom of each leg rest is a table for individual meal service, reading, writing, and office work.

Medical studies and passenger polls have revealed that the Sleeperettes have reduced travel fatigue virtually to the vanishing point.

Flight Crews:

As might be expected, the "world's most experienced airline" prides itself in having the world's most experienced flight crews.

Each Clipper is commanded by a captain, who has undergone the most rigid training program in airline history. Under his command is a multiple crew consisting of a first officer, a second officer-navigator, flight engineer and a radio officer. In the passenger cabin are a highly-trained flight purser and a steward or stewardess.

Air Express:

Air express has become a major economic factor in the trade of the Pacific. Today, the Clippers carry everything from orchids to aircraft engines, from costume jewelry to baby chicks. Consignments of hatching eggs have been flown from San Francisco to Siam, nearly 10,000 miles. Not a day passes without a Clipper arriving with a fragrant cargo of Hawaiian leis or orchids from Honolulu or Australia.

The Clippers have even carried airplanes—small sport planes which were "knocked down" and shipped by air to Honolulu.

So important has air express become that Pan American now operates an all-cargo service, known as the Pacific Trader, across the Pacific.

Facts and Figures:

Indicative of the greatly increased service from San Francisco International Air Terminal are these figures:

PRIVACY FOR SLEEPING

The "'sleeperette" seats in Pan American World Airways ships make up into regular, private berths.

During the fiscal year from July 1, 1946, to June 30, 1947, Pan American carried a total of 14,898 passengers out of San Francisco, and brought in 12,725 for a grand total of 27,623 pasengers.

459,007 pounds of mail was carried out and 392,558 pounds was carried into San Francisco during the fiscal year, making a total of 851,565 pounds of mail handled by Pan American.

Express carried into San Francisco amounted to 56,462, while 542,433 pounds was carried out for a grand total of 598,895 pounds.

There were 2,120 persons (including flight crews) employed at the San Francisco base of the Pacific-Alaska Division as of June 30, 1947. Nearly all of these employees live in San Francisco or on the Peninsula.

Statistics covering the period of July 1, 1946, to June 30, 1947, and involving expenditures made in the San Francisco-Peninsula area:

The total gross payroll for the period amounted to more than $7,120,000.

Cost of engine overhaul amounted to nearly $446,000.

Cost of aviation gasoline amounted to more than $369,000.

Cost of aviation oil amounted to nearly $22,000.

Cost of shop and servicing supplies totaled $750,000.

Cost of passenger food and passenger supplies bought locally amounted to approximately $100,000.

United Air Lines, Inc.:

San Francisco's importance as a hub of air commerce has been emphasized by a number of developments in United Air Lines' operations during the past year.

These include:

1. Introduction over United's coast-to-coast and Pacific Coast route of a fleet of new Mainliner 300's—five-mile-a-minute Douglas-built DC-6 type transports featuring pressurized cabins and luxurious accommodations for long non-stop flights.

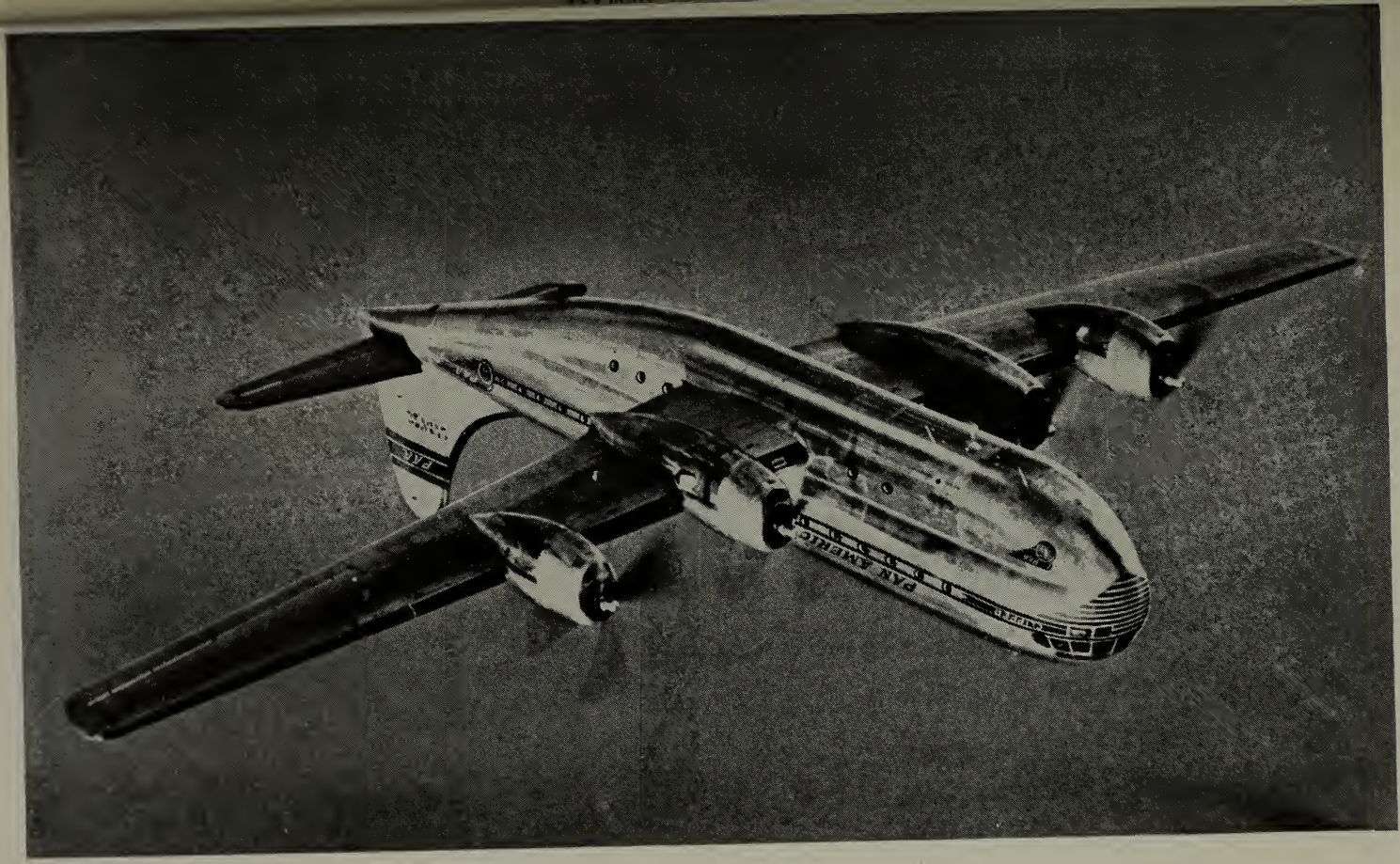
2. Construction of a multi-million dollar base at San Francisco where United will concentrate all its airplane maintenance work.

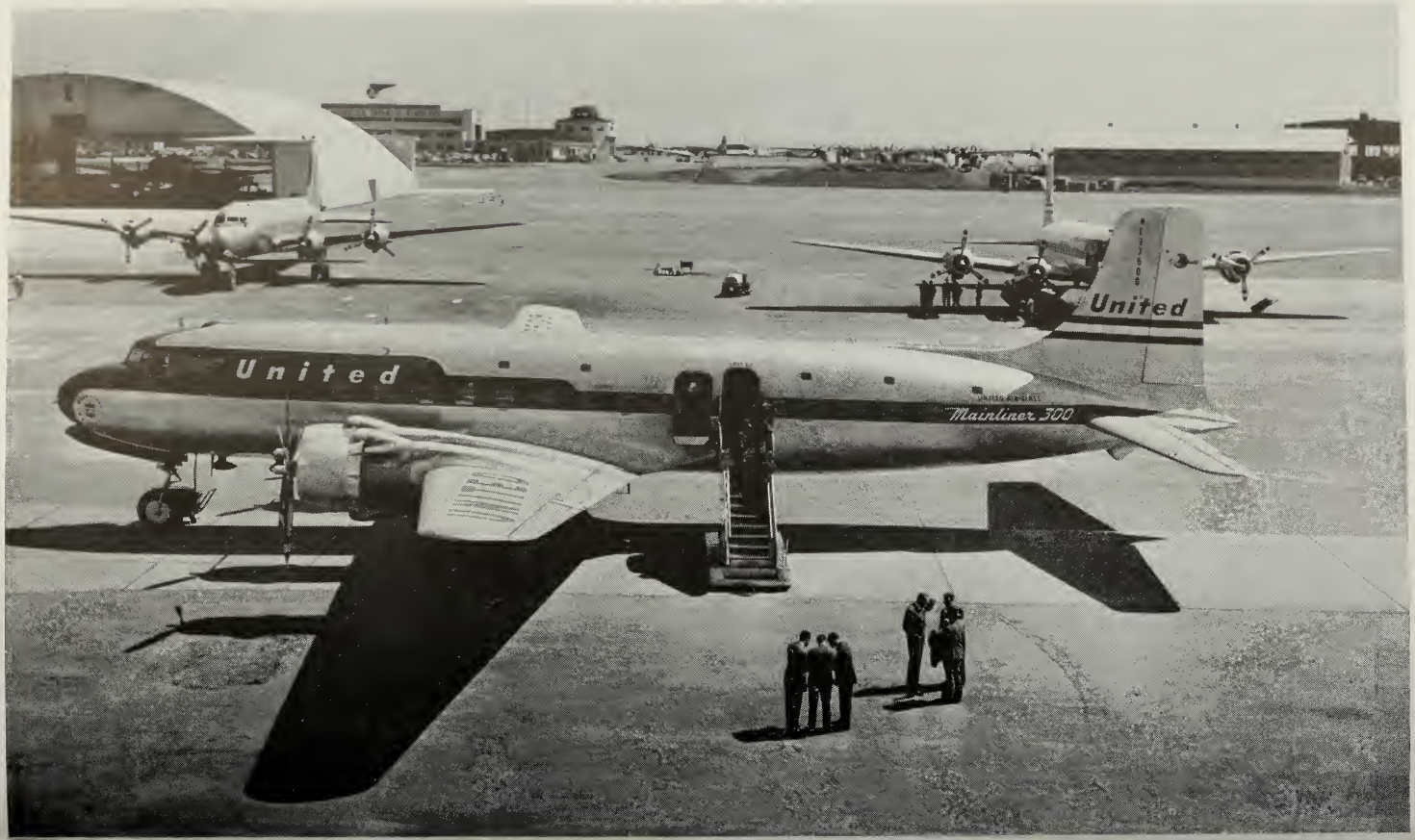
3. Inauguration of daily round trip service by United between San Francisco and Honolulu.

Coupled with record operations in the carrying of passengers, mail and cargo, United's expansion in the Bay Area has emphasized San Francisco's growth in the air transport picture during the past two decades. The Golden Gate city recently observed the 21st anniversary of United's Pacific Coast airway—a route which was opened September 15, 1926, by Pacific Air Transport, a United predecessor.

That early air route first linked San Francisco with Medford, Portland, Seattle, Fresno, Bakersfield and Los Angeles. Today it extends 1,958 miles to 32 cities from Vancouver to San Diego. Pending before the Civil Aeronautics Board are applications which would connect United's Pacific Coast route with that operated through central Mexico by United's subsidiary, LAMSA.

Probably one of the most significant advancements in commercial aviation during the past several years has been the increase in speed, traveling comfort and operational efficiency afforded by United's new Mainliner 300's. These 52-


PAN AMERIC


United
United
Mainliner 300

FLEETEST OF THE FLEET

The United DC 6 carries passengers on long trans-continental and trans-Pacific flights at a speed of 300 miles per hour.

passenger sky giants, with a cruising speed of well over 300 miles an hour, have cut original schedule times over the Pacific Coast airway by almost two-thirds.

As of June 30, 1947, United was flying a total of 116 daily scheduled flights in and out of the San Francisco Airport. Greater frequency of service, officials point out, has accompanied the placing in service of the Mainliner 300's, which operate out of San Francisco to the north, the south, the east, and the west. They have, incidentally, made it possible for the first time for travelers to reach the Hawaiian Islands in 9¾ hours or less. Daily high speed flights between San Francisco and Honolulu were started by United on May 1.

With the construction of its new maintenance base at the San Francisco Airport, United's operations here have expanded to the point where the company now has more than 2,750 employees and an annual payroll of over $3,500,000.

In effect, the base will mean that United will have the equivalent of an extremely large aircraft factory in San Francisco. The city is fast becoming the engineering and maintenance center of the company's 10,600-mile system.

The hangars and shop buildings, will almost triple the available floor space of United's already large base at the north end of the Municipal Airport. Estimates by Seely V. Hall, regional vice president—operations, place the expected number of employees at approximately 5,000 by 1952.

Engineering, research and maintenance departments of United's entire system will be concentrated at the new base. The buildings are designed to handle complete overhaul of the Mainliners 230 and 300 which United is now flying, as well as the Boeing 377 Stratocruiser, on which delivery is expected early in 1948.

Choice of the San Francisco area as the site for the company's postwar development program center hinged on three major factors, according to Mr. Hall.

First, he said, was the fact that United already had a large maintenance base at San Francisco, servicing Pacific Coast equipment and much of the equipment on the eastern runs to Salt Lake City and Denver. This base, however, was second in importance to the engineering section in Cheyenne.

Second, long range airplanes demanded that a complete overhaul shop be placed at one of the terminals of the transcontinental route, where servicing and turnaround would be a routine matter not involving a trip inland to the main base.

Third, the company decided that the Bay Area was ideally suited for such a development. Geographically it was very near the center of United's system, with 2,700 air miles to New York, 2,400 to Honolulu, 840 to Vancouver and 483 to San Diego.

In justification of the decision, Mr. Hall said that after plans had been made, the overwhelming vote given to the twenty-million dollar bond issue for airport improvement shows that San Francisco and the Peninsula are alert to keep pace with the rapid progress in aviation.

Southwest Airways Company:

Southwest Airways is one of the 30 government authorized airlines. It is one of the 13 "feeder" or short-haul lines in operation across the nation today. One of the larger, and a pioneer in the field, Southwest is acknowledged as being typical of the true short-haul air carrier.

Authorized by the Civil Aeronautics Board and officially designated as Air Mail Route 76, the airline inaugurated scheduled passenger, air mail and express service to numerous California "smaller communities" last December 2.

FEEDER LINE ROUTES

Southwest Airways operates one of the largest feeder lines in the United States.

The short seven month period has seen tremendous strides in this new field of short-haul with Southwest establishing itself as an integral part of the Pacific Coast and San Francisco air carrier picture. As of June 30, 1947, this new airline has been scheduling 72 flights weekly to this Airport, and as many outgoing.

Southwest's passengers, many of whom had never before traveled by air, were going to and from the 25 certified cities over the granted 1,169 mile San Francisco-hubbed system.

Southwest's operation has placed San Francisco and the surrounding Bay Area topmost as a national center of short haul air transportation. The state of California now exceeds any other in cities certified for scheduled air service. South-

SOUTHWEST AIRLINES DC 3

Southwest Airlines uses the two-motored DC 3, the "work-horse of the airlines," for its short-haul operations.

west's routes radiating outward from this Airport have contributed to a total of 39 as compared, for example, to New York State's 15 and only 4 in Illinois.

Passenger, air mail and air express totals have increased astoundingly month by month. In June, 8,236 pasengers were carried as compared to a total of 897 for December, initial month of operation. It is estimated that the July total will exceed 10,000 passengers, placing Southwest first of all other short-haul carriers in the country to reach this high monthly mark. Approximately one third of all passenger traffic generated over the entire system originated in the Bay Area.

With its inception Southwest inaugurated service on the number one segment, from San Francisco to Los Angeles. This route brought service to San Jose, Santa Cruz, Watsonville, Monterey, Coalinga, San Luis Obispo, Santa Maria, Santa Barbara, Oxnard and Ventura.

Also authorized was service northward to Medford, Oregon, via two distinct routes. January 15 saw the beginning of service on the Sacramento Valley route, with stations at Oakland, Vallejo, Napa, Sacramento, Marysville, Yuba City, Chico, Red Bluff and Redding. Redding-Medford service began April 1. Scheduled operations started on segment three, the coastal-to-Medford route, on February 14. Cities served were Santa Rosa, Ukiah, Fort Bragg and Eureka; April 27 was the initial date of Eureka-Medford flights. Instrument operation, authorized February 15, was first utilized on March 3.

Southwest's equipment includes eleven 21-passenger, DC-3 aircraft and two C-47 cargo planes. The latter will be utilized extensively when the airline enters the rapidly expanding new field of air freight on August 1.

Southwest's type of operation necessitated changes in equipment and procedure. In order to maintain the speed superiority of the airplane while making stops approximately every 50 miles the entire operation required streamlining. Southwest has cut its ground stops to a maximum of two minutes. Among features contributing to this time saving is Southwest's unique door, opening downward with steps installed on the inside.

A feature of Southwest planes is the colorful route map on the forward bulkhead, placed there for the constant orientation of passengers unfamiliar with the terrain.

With operations headquarters at San Francisco, Southwest employs 218 of its 376 personnel total here. Of a $91,466 system payroll last month, $56,864 went to San Francisco employees. Southwest's annual payroll estimate is more than $682,000 for San Francisco and over $1,097,500 for the system.

Southwest will, later in 1947, request CAA authorization to land scheduled passenger flights under all-weather conditions at Arcata, California. Using facilities of the Landing Aids Experiment Station there, the airline will be the first in the country to use all aids including FIDO, and RAF wartime-developed method of fog dispersal.

Also, Southwest intends to pioneer experiments in airborne radar equipment, designed for mapping and beacon navigation.

The airline is believed to be the only one in the nation to use exclusively a system-wide VHF (very high frequency) radio network. VHF is said to be the coming thing in aerial communications and far superior to regular frequencies now widely employed.

Southwest had filed application with the CAB requesting new routes that will encompass all the state and a goodly portion of adjacent territory.

TIMESAVER

This combination door and step arrangement enables Southwest Airways to save time on the ground on short-haul trips.

The application, asking for franchise to serve up and down the rich San Joaquin Valley and to such points as Boise, Reno, Yuma, comes before the CAB for hearing in October. More than 2,000 additional route miles and 50 new cities are requested.

Trans World Airline:

Trans World Airline operations at San Francisco were highlighted in 1947 when 300-mile-an-hour Constellations were placed in service non-stop between San Francisco and Chicago, with a scheduled flight time of seven hours, and one-stop service to New York with flight time less than 10 hours.

As TWA entered its fifth year of operation into this city, its daily schedules had increased to 28 flights in and out, in contrast to the single flight with which the airline started service .

June 30, 1947, saw Transcontinental & Western Air, Inc., using San Francisco airport as the western terminus of a 28,000-mile domestic and international airline covering 23 states and 15 foreign countries.

In an endeavor to give San Francisco improved service, TWA during the year received a hearing from a Civil Aeronautics Board examiner on its petition to remove certificate restrictions which now prevent TWA from running shuttle flights between San Francisco and Los Angeles. If this restriction is removed, TWA will be able to schedule many more daily flights into the city using available equipment.

TWA is now able to offer direct one-carrier service in four-engine Constellations and other modern Starliners from San Francisco to the major cities of the United States as well as Ireland, France, Switzerland, Italy, Spain, Portugal, Greece, North Africa, Egypt, Saudi Arabia, Palestine and India.

During the year TWA continued its gradual expansion of facilities at San Francisco Airport with the completion of a modern commissary from which meals are prepared for passengers aboard TWA flights. In addition, special quarters were constructed for the many flight crew members based in San Francisco.

In 1947, for the first time by any airline, TWA held a regular meeting of its Board of Directors in San Francisco. Chairman of the Board, Warren Lee Pierson, and TWA's president LaMotte T. Cohu, inspected the company's facilities with the Board members and outlined plans for TWA's continued growth and progress in San Francisco.

Western Air Lines:

If all the passengers who flew into and out of San Francisco on Western Air Lines during 1947 decided to settle down in one spot they would make a city about the size of Sacramento.

Last year the total number of inbound and outbound passengers aboard Western Air Lines planes serving San Francisco Airport was 178,990. A breakdown of this figure as to boarding and deplaning passengers indicates more people came to San Francisco than left: 95,271 having arrived, while 83,719 departed.

Statistics show that business was good in the cargo department, for WAL planes carried a total of 2,494,919 pounds through November, 1947, the latest figures available at press time.

Indicative that San Franciscans carry on a voluminous correspondence was the total mail poundage of 951,767. More mail left the city on Western than was

received with poundage in these categories standing at 516,235 and 435,532, respectively.

Inbound and outbound express poundage was fairly close, with 295,725 outbound and 297,441 inbound for a total of 593,166 through November.

A total of 949,986 pounds of air freight was hauled in and out of the city up through November 30. Of this figure, 506,666 was carried out of the city and 443,320 brought in, proving so far as Western is concerned, San Francisco exports more goods than it imports.

The Flying Tiger Line Inc.:

The Flying Tiger Line operates daily freight schedules throughout the country to such principal points as San Francisco, Los Angeles, Kansas City, Chicago, Cleveland, and New York City. Since June 30, 1946, tremendous changes have occurred in both the size and scope of operations of the company. Beginning in July, 1946, the company began assembling a larger fleet and a vigorous campaign was instituted to develop a high volume of air freight. This campaign resulted in a volume, in the months of November and December, of over a million ton-miles each month, compared to about two hundred thousand for similar periods in 1945. The Flying Tiger Line is the second largest airfreight operator in the world.

Early this year applications for certificates of convenience and necessity for the carriage of property only were heard by the Civil Aeronautics Board in what was known as the Air Freight Case. Pending decision on these applications which normally follow by one year from the date of the hearings the Civil Aeronautics Board issued Exemption Order 292.5. This was issued in an effort to avoid financial disaster to the few remaining all-cargo companies who have so far developed the airfreight industry, and also to bring some semblance of order to the industry. The Exemption Order states in effect that all of the cargo companies who were in operation during the prior twelve months and who also had an application pending before the Civil Aeronautics Board as of May 5, 1947, would be allowed to proceed as scheduled common carriers until sixty days following decisions on their respective applications. This limits the number of airfreight carriers and, as a practical proposition, leaves only three all-cargo lines of any importance serving the transcontinental routes under this exemption.

This is the first definite progress of the Flying Tiger Line in its attempt to gain permanent flying rights as a common carrier of goods.

The Exemption Order should have three beneficial effects on the company's future in the airfreight field:

1. It broadens the scope of solicitation of cargo, since prior to that time the company was limited solely to contract operations and could not publish schedules.

2. It will tend to prevent costly rate wars, since most of these wars have their beginning in subversive rate-cutting designed to gain a volume advantage over competitors before they can verify such low competing rates.

3. The recognition given the carriers by the Government does much to enhance the stability of the carrier in the eyes of the shipping public. More confidence in the carrier means a greater volume of freight accruing to that carrier.

The company flew 6,438,381 ton-miles in its domestic operations during the past year compared with 1,545,906 ton-miles for the year ending June 30, 1946. The Flying Tiger Line's operations in San Francisco during this period showed a freight revenue of $95,000 and a personnel payroll of $12,500 for five employees.

DINE IN STYLE

The "sleeperette" seats in Pan American World Airways ships permit real dining comfort.

Slick Airways, Inc.:

Slick Airways, Inc., is America's largest all-freight airline. The company was incorporated January 4, 1946, hauled its first payload on March 4, 1946, flew 14,360,101 revenue ton-miles of freight during the first year of operation, and was recently made eligible for common carrier status. Slick Airways is now operating more than 200 transcontinental and north-south flights per month.

The company has the lowest airfreight rates ever published by an airline—only 15 to 25 per cent higher than the rates of rail express and more than 66⅔ per cent below those of air express. This is made possible by extremely low operating costs.

Slick Airways was founded by the president, Earl F. Slick, who was a former administrative officer and pilot in the ATC. In 1946 pilots, engineers, technicians, mechanics, traffic men, and business executives who were successful in their own lines of work before the war, started building what is now the country's greatest nationwide common carrier airfreight system.

For equipment, the company purchased nine new C-46E Curtiss Commandos from the Reconstruction Finance Corporation and one from a private owner. Company engineers had carefully selected the Curtiss plane, proven as a transport carrier over the dangerous hump in China, because of its comparatively low operating cost, its 12,200 pound, 2,000 cubic feet cargo capacity and its 200 miles-per-hour speed. The ships have performed in a completely satisfactory manner as airfreighters. Today Slick Airways, Inc., is operating 15 of this type of aircraft. All Slick airfreighters are insulated with three- and four-ply fiberglass and have built-in air-conditioning units to protect pre-cooled perishable cargo. A four-unit heating system, developed as was the air-cooling, by Slick's own engineers provides controlled cargo cabin warmth against severe winter altitude and ground temperatures.

The new airline, which purchased several hundred thousand dollars worth of engines and spare parts, converted the C-46s to commercial use in its own shops and became one of the few airlines to hold a type certificate for licensing (a permit issued by the Civil Aeronautics Authority to aircraft manufacturers only). Eighty experienced pilots were trained and soon were flying freight. Slick Airways requires two pilots with an Airline Transport rating, in each plane.

Sales and traffic, staffed with experienced personnel, were soon established in San Francisco, Los Angeles, Denver, Chicago, Detroit, New York, Philadelphia, Dallas, and San Antonio.

In August, 1946, the company achieved its first million revenue ton-mile, and in October marked up more than 2,000,000 ton-miles. Flying trans-continentally and north and south, the fleet has hit a monthly load factor as high as 92 per cent on flights completed and has achieved 9.8 hours utilization out of 24, a high efficiency for commercial airfreighters. The largest single classification of commodities flown by Slick Airways is department store merchandise, perishables, machinery, household goods, and miscellaneous merchandise follow in that order. Company records show that approximately 30 per cent of the freight volume originates in the San Francisco-Los Angeles area. Distribution of the tonnage shipped is about 40 per cent to the California area.

Slick Airways applied to the Civil Aeronautics Board for a Common Carrier's certificate in March, 1946, and presented its testimony in the combined Air Freight Case hearing late that year. It requested routes serving areas, as distinguished from passenger lines' point-to-point service and the use of flexible schedules and routes to serve small population centers on demand.

Recognizing Slick Airways' sizable achievements in providing the nation's shippers with regular and dependable airfreight service, the Civil Aeronautics Board recently made the company eligible for the status of common carrier, with certification pending its decision on the company's application.

Some of the achievements of Slick Airways, Inc., are:

Establishment of a common carrier airline operating more than 200 flights a month transcontinentally and north-south in less than a year and a half.

Carrying more freight than any other airline and more than twice the tonnage of its nearest all-freight competitor.

First to apply for certification as a freight airline to serve the nation on flexible area-to-area basis.

First to file common carrier tariff which incorporates the lowest airfreight rates ever offered the general public with a 12¾ cents per ton-mile average.

First to develop and equip entire fleet with cargo cabin air-cooling system to protect perishables. Most recent development is the fuselage sprinkler system to cool planes while refueling.

First to develop automatic, four-unit heating system for protection of freight against severe winter altitude temperatures.

First all-freight line to have its own nation wide leased teletype wire, coordinating flight and space control for shipping throughout the nation.

First airfreight line with its own complete maintenance and overhaul system.

First airfreight line to win the Aviation-Air Transport Award for Maintenance in 1946.

The San Francisco Sales, Traffic and Operations office has 26 employees. Five flight crews are based at this station and maintenance crews are set up to handle normal checks or engine charges. Mr. F. J. Wilkinson, San Francisco District Manager, is in charge of all phases of Slick Airways' operations in and about the San Francisco area.

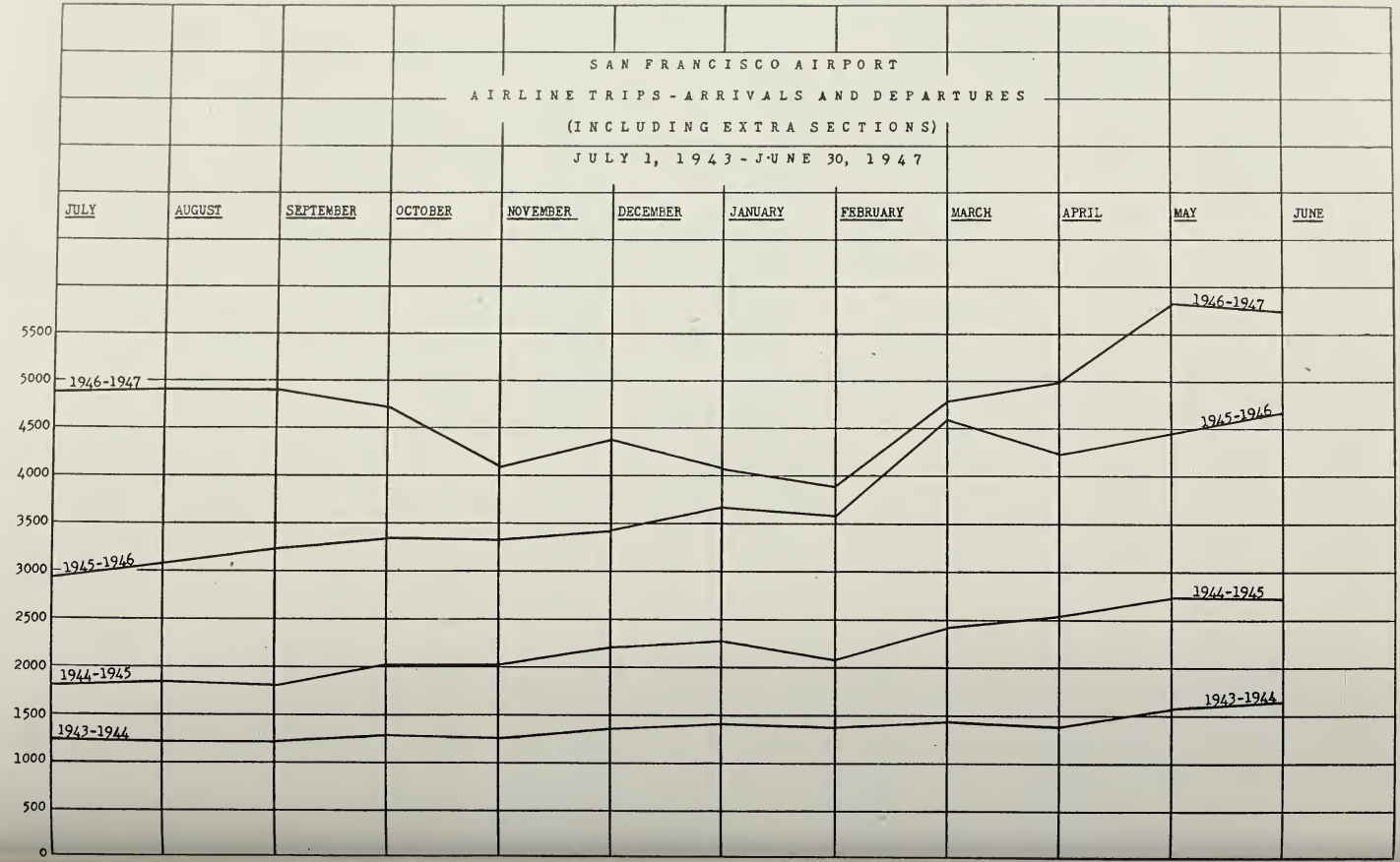
United States Weather Bureau Airport Station and Forecast Center:

The United States Weather Bureau, operating at the San Francisco Airport, served all persons desiring weather information regarding this area during the past year. The Bureau maintains a staff of 55 employees based at the San Francisco Airport, with an annual payroll of approximately $190,000. It is divided into such components as Flight Advisory Weather Service, Observational, Coding, Airway Forecast, District Forecasts, and International Air Service units.

Some of the services provided by the Weather Bureau are weather bulletins for the use of ships at sea, airway regional and terminal forecasts each six hours for western Nevada and northern California, local terminal forecasts each hour and long range terminal forecasts for air carrier use. It also furnishes weather information to commercial and itinerant pilots and prepares trip forecasts for the airlines operating on the field. This bureau is responsible for the issuance of general forecasts each six hours, storm warnings, frost warning service for northern California, Oregon, Washington, Idaho and Nevada, and operating a fire weather service during the dryer months of the year for northern California and western Nevada. The main center for weather map analysis and flight forecasts for air carrier operations in the northern Pacific Ocean area is the International Aviation Service Unit of the Weather Bureau Airport Station.

MORE AIRPLANES IN USE

The increase in the number of airline trips during the last few years means greater convenience for the flying pub



U. S. Coast Guard Air Station:

The U.S. Coast Guard Air Station is the focal point of Air Search and Rescue activities for this area. It utilizes both land and sea plane facilities of the San Francisco Airport. Its area of responsibility extends from the Oregon-California boundary to Santa Maria and halfway to the Hawaiian Islands.

Long range coverage is accomplished with specially equipped Flying Fortresses carrying droppable lifeboats, and by Martin Mariners. Grumman Amphibians are used normally for local operations.

A rigorous training program is pursued constantly to provide all possible assistance in the event of occasional disaster which must be anticipated with the ever increasing trans-Pacific commercial flying.

In addition to strictly rescue activities, the station is charged with assistance in carrying out many other dutes required of the Coast Guard by law, such as transporting medical cases from ship to shore, locating disabled and overdue craft, checking aids to navigation, etc.

Close liaison is maintained with commercial interests operating trans-Pacific runs in order to have exchange of ideas, discussion of problems, and to keep them advised of latest developments in techniques which would be of value to them.

Non-Scheduled Carrier Operations:

The non-scheduled companies operating at the present time are those that have met the test of competition and survived, since the past year has seen a marked decrease in the number of such carriers. Some of the airlines using the Airport facilities are Viking Air Transport, Eagle Air Freight, Resort Airlines, and Valley Air Service.

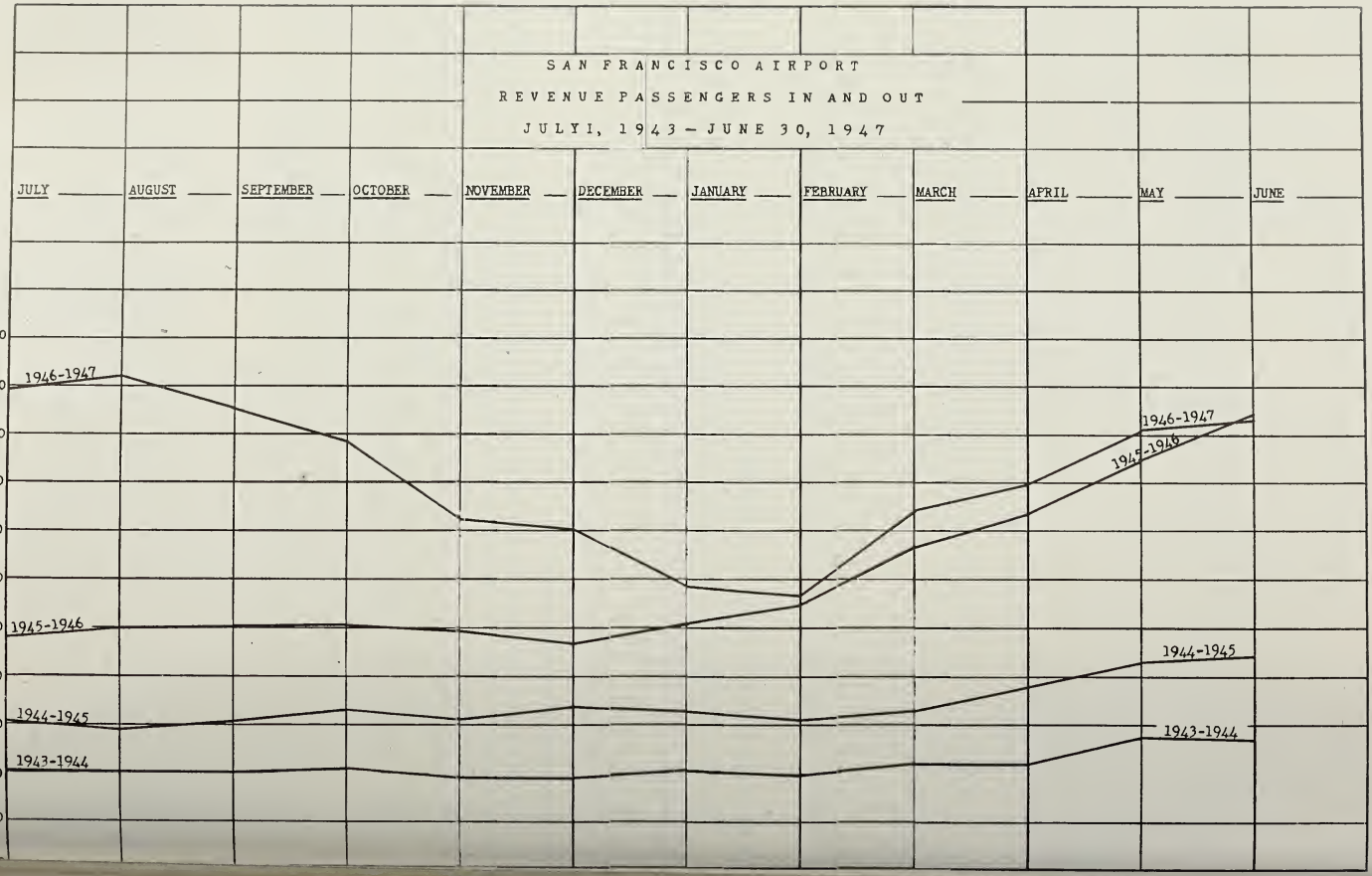
Communication Services:

The Overseas Foreign Aeronautical Communication Station at the San Francisco Airport, under the jurisdiction of the CAA, is charged with furnishing aids to air navigation to aircraft in overseas flight. All facilities are maintained for the benefit of the general public and the itinerant pilot receives the same consideration as do the scheduled airlines and military aircraft. This station covers the area between the Pacific Coast and Hawaii, and maintains constant communication with all aircraft flying within those boundaries.

The Airway Communications Station has a corresponding function for aircraft on domestic flights. The present staff of the Communications Station under the direction of E. C. Butler, Chief Communicator, includes 55 employees with an annual payroll of $240,000.

Airport Traffic Control Tower:

All aerial traffic, within the San Francisco Airport control zone, is under the direction of the Airport traffic control tower, directed by E. P. Sullivan, Chief Airport Traffic Controller, and functions 24 hours a day. The control tower is staffed with employees of the Civil Aeronautics Administration, and maintains two-way radio communication with all aircraft. "Light guns" are available in case the plane is not radio equipped. All control tower procedure is standardized throughout the nation so that any pilot is able to understand and follow instructions from the tower without being bewildered by local phraseology.



AIRLINE TRAVEL BOOMS

The tremendous increase in the number of passengers utilizing San Francisco Airport is graphically shown in chart above. Note how volume of traffic varies between winter and summer months.

Some of the standard terms used in radio voice communication to eliminate confusion and misunderstanding are:

Roger ..... Message received, O.K., I understand

Wilco ..... Message received, I will comply.

Over ..... Finished speaking and reply expected.

Out ..... Have finished speaking and no reply expected.

Under consideration for installation in the very near future, is an instrument landing system that will improve the Airport's already outstanding record for scheduled flights completed.

Skyway Cafe:

The Skyway Cafe, along with all other Airport activities, has shown a remarkable increase in business. The Airport received $26,199.07 from this concession during the past fiscal year. The concessionaire's total payroll amounted to $151,619.56 and it is conservatively estimated that more than 1,200,000 persons made use of the Skyway Cafe's facilities during the past fiscal year.

Airport Personnel:

As of June 30, 1947, the personnel roster of the San Francisco Airport is composed of the following:

Manager and Chief Engineer of Airport Department, B. M. Doolin

Superintendent of Airport Operations, H. S. Messersmith

Asst. Superintendent of Airport Operations, R. E. Smith

Engineer (Construction), A. J. Wehner

Maintenance Chief, M. B. Sweet

Accountant, H. J. Pachtner

Supervisor of Airport Services

Crew Chiefs

Airport Attendants

Bookkeepers

Clerk Stenographers

Telephone Operators

Clerk Typists

Working Foreman Janitor

Janitors

Janitresses

SAN FRANCISCO AIRPORT

EXHIBIT A

CONSOLIDATED BALANCE SHEET, JUNE 30, 1947

ASSETS

Fixed Capital:			
In Service (Schedule No. 1)		$14,884,805.70	
Less Reserve for Depreciation		2,089,645.65	
		$12,795,160.05	
Under Construction:			
1938 Bond Fund	$11,075.32		
1945 Bond Fund	6,840,730.14	6,851,805.46	$19,646,965.51
Cash:			
Operating Fund		$72,431.36	
Revolving Fund		2,500.00	
Reconstruction and Replacement Fund		64,643.29	
1938 Bond Fund (Schedule No. 2)		5,022.88	
1945 Bond Fund (Schedule No. 3)		9,599,952.10	
Cash in Transit		833.02	
1945 Bond Interest Fund 1¼%		1,525.00	
1945 Bond Interest Fund 1½%		262.50	
1945 Bond Interest Fund 2½%		1,250.00	
1945 Bond Interest Fund 1%		800.00	9,749,220.15
Accounts Receivable:			
Miscellaneous Debtors		$53,164.44	
Less Reserve for Bad Accounts		1,050.00	52,114.44

LIABILITIES

Bonded Debt:			
1938 Airport Bonds Due January 1, 1938 to January 1, 1949	$2,850,000.00		
Less Bonds Matured	2,280,000.00		
Bonds Outstanding		$570,000.00	
1945 Airport Bonds Due December 15, 1946 to Dec. 15, 1957	$20,000,000.00		
Less Bonds Unissued and Matured	5,000,000.00		
Bonds Outstanding		15,000,000.00	
Total Bonds Outstanding			$15,570,000.00
Bond Interest Payable:			
1945 Bond Interest Accrued—Not Due		$6,822.91	
1938 Bond Interest Matured		4,855.00*	
1945 Bond Interest Matured		3,837.50	15,515.41
Accounts Payable:			
Warrants Outstanding		$538,328.19	
General Creditors		2,501.58	
Contract Payments—Withheld		89,866.61	
Contract Payments—Due		395,866.79	

Interfund Accounts (Schedule No. 3):		
Taxes Receivable—Prior Years	$12,659.63	
Less Reserve (Schedule No. 4)	4,512.07	8,147.56
Deferred Charges:		
Material and Supplies	$2,921.80	
Prepaid Insurance	2,318.01	
Unexpired Insurance	5,410.40	
Cash in Transit	132.40	
Outstanding Encumbrances (Contra)	3,791,813.97	3,802,596.58
		$33,259,044.24

Outstanding Encumbrances (Contra):			
Operating Fund	$5,514.79		
1945 Bond Fund	3,786,299.18	3,791,813.97	4,818,377.14
Interfund Accounts (Schedule No. 4):			
Due to Public Service Enterprises (Schedule No. 5)		$144,227.85	
Due to General City and County		5,530.96	149,758.81
Deferred Credits:			
Bond Premium—Unamortized		$13,596.64	
Guarantee Deposits		300.00	
Rentals Paid in Advance		17,145.32	
Telegraph Agency—Cash Receipts		5,453.24	
Deposits on Specifications		310.00	
Gasoline and Oil Sales		134.58	
Reserve for Vacations		52.81	
Reserve for Sick Leave		26.34	
Reserve for Compensation Insurance		39.61	
Locker Agency Cash Receipts		100.99	
Rentals Billed in Advance		83.87	
Suspense Credits		5,935.56	43,178.96
Surplus:			
Detail Schedule Attached (Exhibit C)			12,662,213.92
			$33,259,044.24

*Note: Interest Payable July 1, 1947.

SAN FRANCISCO AIRPORT
EXHIBIT B
COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
For Twelve Months Ended June 30, 1947

		June 30, 1947	June 30, 1946
	OPERATING REVENUES:		
	Air Carrier Flight Operations:		
6701-A	Scheduled Air Carriers	$76,190.34	$48,196.55
6701-B	Certified Scheduled Feeder Air Carriers	1,384.95	.....
6701-C	Non-Scheduled Air Carriers	12,800.08	.....
	Total Flight Operations	$90,375.37	$48,196.55
	RENTALS:		
6702-A	Public Address System Announcements	$20.00	
6703-A	Aircraft Outdoor Storage	9,295.26	
6703-B	Airport Property Unimproved	7,096.79	
6703-C	Airport Property Paved Area	15,893.09	
6703-D	Hangar, Hangar Office, and Hangar Shop, Entire Hangar as a Unit	11,818.98	
6703-E	Partial Hangar, Hangar Office and Hangar Shop	530.29	
6703-F	Passenger Terminal Building Office Space	6,257.22	
6703-G	Passenger Terminal Building Other than Office Space	32,083.95	
6703-H	Other Buildings, Structures and Improvements	8,167.68	
6703-I	Tank Farm Area	2,944.48	
6704-A	Bulk Petroleum Deliveries to Tank Farm Area	1,938.15	
6704-B	Pipe Line Licenses	250.00	
	Total Rentals	$96,295.89	$40,528.33
	COMMISSIONS ON PERMITS OUTSIDE PASSENGER TERMINAL BUILDING:		
6705-A	Taxi Cabs and Limousines	$28,575.36	.....
	COMMISSION ON AGENCIES:		
6706-A	Telegraph	$18,122.43	$9,897.69
6706-B	Petroleum Products	47,848.36	4,920.76
6706-C	Lockers	787.46	.....
	Total Commissions	$66,758.25	$14,818.45
	Total Operating Revenues	$282,004.87	$103,543.33
	OPERATING EXPENSES:		
	Salaries and Wages:		
	Administrative	$10,000.08	$10,098.75
	Maintenance	4,968.00	5,984.55
	Operative	139,851.83	65,388.63
	Total Salaries	$154,819.91	$81,471.93
	OPERATING COSTS:		
7201	Travel Expense and Local Fares	$8,071.56	$4,922.89
7202	Freight, Express and Drayage	87.88	.....
7203	Use of Employees' Cars—Mileage Only	1,015.00	50.33
7205	Storage and Care of Vehicles	13.60	211.00
7218	Maintenance and Care of Office Equipment	109.33	94.27
7231	Gas and Electricity	6,255.25	6,426.39
7232	Telephone and Telegraph	4,349.30	3,775.98
7233	Postage	478.47	96.54

		June 30, 1947	June 30, 1946
7234	Printing, Advertising, etc.	976.97	447.84
7235	Subscriptions to Newspapers and Periodicals	430.48	341.30
7238	Contractual, Janitorial and Window Washing Services	780.00	795.00
7269	Professional and Special Services	2,520.74	5,557.15
7298	Miscellaneous Contractual Services	633.64	332.90
7300	Operating Material and Supplies	6,269.20	5,896.93
	Total Operating Costs	$31,991.42	$28,948.52
	MAINTENANCE COSTS:		
8220	Maintenance of Landing Area	$5,683.58	$825.14
8221	Maintenance of Runways	5,168.35	552.82
8222	Maintenance of Field Lighting Equipment	1,531.83	414.00
8223	Maintenance of Radio Equipment	308.00	676.47
8224	Maintenance of Hangars	1,448.87	1,150.52
8225	Maintenance of Administration Building	1,568.01	3,001.66
8226	Maintenance of Other Buildings	628.39	1,614.27
8227	Maintenance of Automotive Equipment	2,516.01	2,558.30
8227-2	Automotive Transportation—Miscellaneous	1,385.65	.....
8228	Maintenance of Other Equipment—Shop, Field, etc.	419.46	704.21
8229	Maintenance of Parking Areas, Roads, Walks, Fences, etc.	3,596.02	2,560.83
8230	Maintenance of Power Distribution System	5,037.86	123.53
	Total Maintenance Costs	$29,292.03	$14,181.75
	FIXED CHARGES:		
9801	Accident Compensation—Employees	$41.76	$374.79
9813	Automobile Insurance	550.00	404.50
9815	Other Insurance	4,597.03	3,636.42
9860	Pensions and Retirement Allowance	5,157.25	2,907.22
9870	Taxes	30,051.45	14,535.47
9925	Depreciation	434,979.48	214,777.76
9930	Bad Accounts	1,050.00	.....
	Total Fixed Charges	$476,426.97	$236,636.16
	Total Operating Expenses	$692,530.33	$361,238.36
	Operating Loss	$410,525.46	$257,695.03

	OTHER INCOME:				
6707-R	Income from Resale of Electric Energy	$74,607.84		$62,171.83	
6707-K	Less Cost of Electric Energy Sold	55,884.19		49,444.76	
		$18,723.65		$12,727.07	
6708-A	Rental of Land for Purposes not Associated with Aviation	2,789.76		2,403.00	
6708-B	Reimbursement of Taxes Paid—Pan American Airways	2,218.81		.....	
6708-C	Reimbursement of Telephone Extension Charges	410.55		.....	
6708-D	Cash Discounts	31.22		.....	
6708-E	Miscellaneous	179.01		.....	
6709	Non Cash Revenues	3,231.11	27,584.11	3,117.38	18,247.45
	OTHER EXPENSES:				
9830	1938 Airport Bond Interest Expense	$13,328.19		$16,992.50	
9830	Less Amortization of 1938 Bond Premium	139.63	13,188.56	195.49	16,797.01
	Net Loss for Twelve Months		$396,129.91		$256,244.59

SAN FRANCISCO AIRPORT
EXHIBIT C
CONSOLIDATED SURPLUS ACCOUNT
For Twelve Months Ended June 30, 1947

Balance—June 30, 1946		$7,988,897.29
Deduct:		
Audit Adjustment of Reserve for Overhead, Omitted June 30, 1946	$97.14	
Audit Adjustment of Donation of 290 Gallons of Gasoline by Army	31.37	
Audit Adjustment of Accounting of Contract 77—Canopy Job	1,268.33	
Audit Adjustment of Invoices to Army for Maintenance	2,648.94	
1938 Bond Premium transferred to Deferred Credit	251.32	
1945 Bond Premium transferred to Deferred Credit	2,829.87	
Adjustment of Depreciation on account of Revaluation of Navy Grant November 15, 1945	110,040.14	
Adjustment of Depreciation on account of Equipment Retired, June 30, 1947	60.57	117,227.68
		$7,871,669.61
Add:		
Audit Adjustment of Invoice to Army for Maintenance not recorded as of June 30, 1946	$222.61	
Do	2,454.50	
Audit Adjustment of Invoices to Army for Maintenance (Federal Grants earned)	8,220.79	
Turn-in Value on Buick Sedan, 1929	75.00	
Adjustment of Depreciation on account of Revaluation of Navy Grant November 15, 1945	4,461.56	
Adjustment of Depreciation as per Audit Adjustments shown on Depreciation Schedule	4,721.30	20,155.76
Balance—June 30, 1946—After Audit Adjustments		$7,891,825.37
Deduct:		
Radio Equipment, junked and replaced by new Equipment	$438.80	
1945 Bond Premium transferred to Deferred Credit	9,100.00	
Loss for Twelve Months ended June 30, 1947	396,129.91	
Adjustment of Taxes Receivable	2,725.78	
Adjustment of Surplus on account of Revaluation of Navy Grant, November 15, 1945	89,600.00	497,994.49
		$7,393,830.88
Add:		
Contribution from Taxes (1946-1947 Budget)	$894,215.00	
1945 Bond Premium on Lot No. 3	9,100.00	
Donation by Army of 154 gallons of gasoline	17.97	
Land Returned to Airport by Navy Grant (Formerly Condemned)	17,595.73	
New Construction by Civil Aeronautics Administration	1,134,214.00	
Revaluation of Navy Grant	3,178,980.93	
Land Grant from State of California, 22 acres	1,100.00	
New Construction by United Air Lines	33,159.41	5,268,383.04
Balance—June 30, 1947		$12,662,213.92

EXHIBIT D

COMPARISON OF ACTUAL REVENUES AND EXPENDITURES WITH BUDGET ESTIMATE

Fiscal Year 1946-1947

	Fiscal Year 1946-1947 Budget and Modifications	Month of June, 1947 Budget and Modifications	Month of June, 1947 Expenses Revenues Accruals	Month of June, 1947 Increase or Decrease	Twelve Months to June 30, 1947 Budget and Modifications	Twelve Months to June 30, 1947 Expenses Revenues Accruals	Twelve Months to June 30, 1947 Increase or Decrease
OPERATION AND MAINTENANCE:							
Permanent Salaries—Maintenance	$8,088.00	$674.00	$414.00	$260.00	$8,088.00	$4,968.00	$3,120.00
Permanent Salaries—Operative	147,435.00	12,286.25	11,902.08	384.17	147,435.00	130,621.14	16,813.86
Allowance for Overtime	2,300.00	191.67	295.70	*104.03*	2,300.00	1,848.75	451.25
Allowance for Holidays	3,991.00	332.58	261.81	70.77	3,991.00	3,095.07	895.93
Temporary Salaries—Operative	5,401.00	450.08	185.96	264.12	5,401.00	4,286.87	1,114.13
Contractual Services	19,180.00	1,598.34	1,656.60	*58.26*	19,180.00	16,166.23	3,013.77
Routine Maintenance—General	26,300.00	2,191.67	5,849.47	*3,657.80*	26,300.00	29,292.03	*2,992.03*
Heat, Light and Power	72,000.00	6,000.00	5,004.16	995.84	72,000.00	62,139.44	9,860.56
Window Washing Service	1,200.00	100.00	65.00	35.00	1,200.00	780.00	420.00
Materials and Supplies	6,850.00	570.83	915.10	*344.27*	6,850.00	6,269.20	580.80
Services of Other Departments	2,760.00	230.00	700.57	*470.57*	2,760.00	2,520.74	239.26
Total Operations and Maintenance	$295,505.00	$24,625.42	$27,250.45	*$2,625.03*	$295,505.00	$261,987.47	$33,517.53
ADMINISTRATION AND GENERAL:							
Permanent Salaries	$11,560.00	$963.33	$833.34	$129.99	$11,560.00	$10,000.08	$1,559.92
Compensation Insurance	710.00	59.17	38.30	20.87	710.00	41.76	668.24
Auto Insurance	600.00	50.00	.....	50.00	600.00	550.00	50.00
Other Insurance	2,700.00	225.00	770.21	*545.21*	2,700.00	4,597.03	*1,897.03*
Pension and Retirement Allowance	8,014.00	667.83	492.56	175.27	8,014.00	5,157.25	2,856.75
Total Administration and General	$23,584.00	$1,965.33	$2,134.41	*$169.08*	$23,584.00	$20,346.12	$3,237.88
FIXED CHARGES:							
Taxes	$30,063.00	$2,505.25	$2,503.17	$2.08	$30,063.00	$30,051.45	$11.55
1938 Bond Interest	14,565.00	1,213.75	809.16	404.59	14,565.00	12,137.50	2,427.50
1938 Bond Redemption	285,000.00	23,750.00	23,750.00	.....	285,000.00	285,000.00	.....
1945 Bond Interest	89,000.00	7,416.67	7,416.67	.....	89,000.00	89,000.00	.....
1945 Bond Redemption	500,000.00	41,666.67	41,666.67	.....	500,000.00	500,000.00	.....
Total Fixed Charges	$918,628.00	$76,552.34	$76,145.67	$406.67	$918,628.00	$916,188.95	$2,439.05
EQUIPMENT:							
A. & B. and Replacements: Reconstruction and Replacements	$31,650.00	$2,637.50	$1,558.00	$1,079.50	$31,650.00	$9,709.91	$21,940.09
Total Expenditures	$1,269,367.00	$105,780.59	$107,088.53	*$1,307.94*	$1,269,367.00	$1,208,232.45	$61,134.55
Total Revenues	$340,645.00	$28,387.09	$36,935.62	$8,548.53	$340,645.00	$362,242.06	$21,597.06
Net Savings Over Budget Estimate				$7,240.59			$82,731.61

Italic figures denote loss and deficiency.

SAN FRANCISCO AIRPORT
SCHEDULE No. 1
FIXED CAPITAL AND DEPRECIATION
1946-1947

		Balance June 30, 1946	Additions July 1, 1946 June 30, 1947	Retirements July 1, 1946 June 1, 1947	Adjustments July 1, 1946 June 30, 1947	Balance June 30, 1947	Accrued Depreciation June 30, 1947	Depreciation for 1947-1948
I	LAND	$1,077,923.13	$327,804.68	.....	.....	$1,405,727.81	.....	.....
II-1	LAND PLANE PORT: LANDING AREA:							
	(a) Land Reclamation and Improvement	$4,085,773.25	$334,508.68	.....	*$44,615.66*	$4,375,666.27	$231,770.71	$33,142.36
	(b) Field Drainage	295,586.69	52,874.81	.....	*6,609.69*	341,851.81	83,098.02	12,300.81
	(c) Drainage Control	105,868.00	.....	.....	.....	105,868.00	65,282.64	7,133.16
	(d) Runways, Taxiways and Aprons	1,142,854.80	720,218.57	.....	*41,310.80*	1,821,762.57	398,455.45	79,208.44
	(e) Landing Field Lighting and Marking	166,000.87	31,087.18	.....	318.24	197,406.29	71,493.98	12,209.99
	Total Landing Area	$5,796,083.61	$1,138,689.24	.....	*$92,217.91*	$6,842,554.94	$850.100.80	$143,994.76
II-2	LAND PLANE PORT: UTILITIES, ROADS AND PARKING AREA:							
	(a) Roads, Walks, Parking Areas, Fences and Appurtenant Drainage	$206,209.04	.....	.....	$157.56	$206,366.60	$36,520.81	$4,416.67
	(b) Water Supply System	30,281.00	.....	.....	.....	30,281.00	6,521.48	1,009.37
	(c) Sewage System	20,773.00	.....	.....	.....	20,773.00	6,220.72	692.43
	(d) Power Supply System and Street Lighting	53,806.52	.....	.....	.....	53,806.52	14,475.64	1,706.81
	(e) Telephone System (Outside of Buildings)	4,441.00	.....	.....	.....	4,441.00	1,480.12	148.03
	(f) Gas Supply System	1,257.00	.....	.....	.....	1,257.00	620.40	62.85
	(g) Bridges and Culverts	24,668.00	.....	.....	.....	24,668.00	5,345.80	849.70
	(h) Landscaping	15,166.00	.....	.....	.....	15,166.00	4,284.28	589.82
	(i) Miscellaneous	18,035.67	15,586.08	.....	*16,455.67*	17,166.08	3,974.74	1,648.92
	(j) Gasoline Line and Storage	107,134.00	.....	.....	.....	107,134.00	1,428.44	357.11
	Total Utilities: Roads & Parking Areas	$481,771.23	$15,586.08	.....	*$16,298.11*	$481,059.20	$80,872.43	$11,481.71

II-3-a-n	LAND PLANE PORT: BUILDINGS	$1,862,793.85	$33,290.25	.....	.....	$1,896,084.10	$531,813.88	$85,219.81
II-4	LAND PLANE PORT: EQUIPMENT:							
	(a) Office Furniture and Appliances	$16,039.00	$3,064.24	*$59.02*	.....	$19,044.22	$11,342.44	$711.42
	(b) Shop Tools and Building Maintenance Equipment	2,236.82	351.57	.....	.....	2,588.39	1,061.07	221.05
	(c) Fire Fighting Equipment	27,173.52	1,558.00	*207.71*	.....	28,523.81	16,398.93	2,245.70
	(d) Motor Driven Equipment	35,150.56	3,035.07	*121.19*	.....	38,064.44	29,970.12	1,913.42
	(e) Meteorological Equipment	4,067.55	142.48	.....	.....	4,210.03	3,267.23	148.94
	(f) Drainage Pumphouse Equipment	8,000.80	.....	.....	.....	8,000.80	3,267.36	323.16
	(g) Sewage Pumphouse Equipment	2,901.03	.....	.....	.....	2,901.03	902.50	102.80
	(h) Other Equipment	2,449.98	.....	*32.47*	.....	2,417.51	1,540.21	107.72
	(i) Radio Equipment	21,475.62	7,102.29	*4,388.40*	.....	24,189.51	14,150.41	2,347.66
	Total Equipment	$119,494.88	$15,253.65	*$4,808.79*	.....	$129,939.74	$81,900.27	$8,121.87
III	SEAPLANE PORT:							
	(1) Land Reclamation and Improvement	$698,837.91	.....	.....	.....	$698,837.91	$12,329.99	$1,215.40
	(2) Utilities	7,787.00	.....	.....	.....	7,787.00	1,817.28	259.57
	Total Seaplane Port	$706,624.91	.....	.....	.....	$706,624.91	$14,147.27	$1,474.97
	U. S. NAVY GRANT	.....	$3,422,815.00	.....	.....	$3,422,815.00	$530,811.00	$176,936.79
	Grand Totals	$10,044,691.61	$4,953,438.90	*$4,808.79*	*$108,516.02*	$14,884,805.70	$2,089,645.65	$427,229.91

Italic figures denote loss and deficiency.

SAN FRANCISCO AIRPORT
SCHEDULE No. 2
1938 AIRPORT BOND FUND
STATEMENT OF ANNUAL BOND INTEREST AND REDEMPTION BY FISCAL YEARS
DETAIL OF AMORTIZATION OF BOND PREMIUM—ACCRUAL BASIS

Date Sold	Premium	Accrued Interest	Rate of Interest	Lot 1 2%	Lot 2 1¾%	Lot 3 1 7/10%	Lot 4 ½%	Lot 5 1¾%	Lot 6 2%	Lot 7 1½%	Total
February 25, 1938	$714.35	$1,950.00	2%	$650.000	.....	.....	.....	.....	.....	.....	$650,000
August 4, 1938	561.20	489.27	1¾%	.....	$305,000	.....	.....	.....	.....	.....	305,000
February 23, 1939	1,885.00	1,596.11	1 7/10%	.....	.....	$650,000	.....	.....	.....	.....	650,000
August 16, 1939	.....	77.50	½%	.....	.....	.....	$124,000	.....	.....	.....	124,000
August 16, 1939	.....	385.00	1¾%	.....	.....	.....	.....	$176,000	.....	.....	176,000
July 9, 1940	463.00	233.33	2%	.....	.....	.....	.....	.....	$525,000	.....	525,000
July 9, 1940	.....	140.00	1½%	.....	.....	.....	.....	.....	.....	$420,000	420,000
	$3,623.55	$4,871.21		$650,000	$305,000	$650,000	$124,000	$176,000	$525,000	$420,000	$2,850,000

Date	Fiscal Year	ANNUAL BOND REDEMPTION							
January 1, 1940	1939-40	$65,000	$31,000	$65,000	$124,000	.....	.....	.....	$285,000
January 1, 1941	1940-41	65,000	31,000	65,000	.....	$19,000	$105,000	.....	285,000
January 1, 1942	1941-42	65,000	31,000	65,000	.....	19,000	105,000	.....	285,000
January 1, 1943	1942-43	65,000	31,000	65,000	.....	19,000	105,000	.....	285,000
January 1, 1944	1943-44	65,000	31,000	65,000	.....	19,000	105,000	.....	285,000
January 1, 1945	1944-45	65,000	30,000	65,000	.....	20,000	105,000	.....	285,000
January 1, 1946	1945-46	65,000	30,000	65,000	.....	20,000	.....	$105,000	285,000
January 1, 1947	1946-47	65,000	30,000	65,000	.....	20,000	.....	105,000	285,000
January 1, 1948	1947-48	65,000	30,000	65,000	.....	20,000	.....	105,000	285,000
January 1, 1949	1948-49	65,000	30,000	65,000	.....	20,000	.....	105,000	285,000
		$650,000	$305,000	$650,000	$124,000	$176,000	$525,000	$420,000	$2,850,000

ANNUAL BOND INTEREST EXPENSE

Fiscal Year								
1937-38	$4,550	.....	.....	.....	.....	.....	.....	$4,550.00
1938-39	13,000	$4,848.23	$3,928.89	.....	.....	.....	.....	21,777.12
1939-40	12,350	5,066.25	10,497.50	$232.50	$2,695.00	.....	.....	30,841.25
1940-41	11,050	4,523.75	9,392.50	.....	2,913.75	$9,216.67	$6,160.00	43,256.67
1941-42	9,750	3,981.25	8,287.50	.....	2,581.25	7,350.00	6,300.00	38,250.00
1942-43	8,450	3,438.75	7,182.50	.....	2,248.75	5,250.00	6,300.00	32,870.00
1943-44	7,150	2,896.25	6,077.50	.....	1,916.25	3,150.00	6,300.00	27,490.00
1944-45	5,850	2,362.50	4,972.50	.....	1,575.00	1,050.00	6,300.00	22,110.00
1945-46	4,550	1,837.50	3,867.50	.....	1,225.00	.....	5,512.50	16,992.50
1946-47	3,250	1,312.50	2,762.50	.....	875.00	.....	3,937.50	12,137.50
1947-48	1,950	787.50	1,657.50	.....	525.00	.....	2,362.50	7,282.50
1948-49	650	262.50	552.50	.....	175.00	.....	787.50	2,427.50
	$82,550	$31,316.98	$59,178.89	$232.50	$16,730.00	$26,016.67	$43,960.00	$259,985.04

DETAIL OF AMORTIZATION OF PREMIUM

Fiscal Year								
1937-38	$39.37	.....	.....	.....	.....	.....	.....	$39.37
1938-39	112.50	$86.88	$125.15	.....	.....	.....	.....	324.53
1939-40	106.88	90.79	334.37	.....	.....	.....	.....	532.04
1940-41	95.63	81.07	299.18	.....	.....	$164.02	.....	639.90
1941-42	84.38	71.34	263.98	.....	.....	130.80	.....	550.50
1942-43	73.12	61.62	228.78	.....	.....	93.43	.....	456.95
1943-44	61.87	51.90	193.58	.....	.....	56.06	.....	363.41
1944-45	50.62	42.34	158.39	.....	.....	18.69	.....	270.04
1945-46	39.37	32.93	123.19	.....	.....	.....	.....	195.49
1946-47	28.12	23.52	87.99	.....	.....	.....	.....	139.63
1947-48	16.87	14.11	52.79	.....	.....	.....	.....	83.77
1948-49	5.62	4.70	17.60	.....	.....	.....	.....	27.92
	$714.35	$561.20	$1,885.00	.....	.....	$463.00	.....	$3,623.55

SAN FRANCISCO AIRPORT

SCHEDULE No. 3

1945 AIRPORT BOND FUND

STATEMENT OF ANNUAL BOND INTEREST AND REDEMPTION BY FISCAL YEARS

Date Sold	Premium	Accrued Interest	Rate of Interest	Series "A" Lot No. 1 3%	Series "A" Lot No. 2 ½%	Series "B" Lot No. 3 1%	Series "C" Lot No. 4 2½%	Series "C" Lot No. 5 1¼%	Series "C" Lot No. 6 1½%	Total
March 1, 1946	$3,500.00	$3,166.67	3%	$500,000	.....	.....	.....	.....	.....	$500,000
March 1, 1946		4,750.00	½%	.....	$4,500,000	.....	.....	.....	.....	4,500,000
August 29, 1946	9,100.00	4,111.11	1%	.....	.....	$2,000,000	.....	.....	.....	2,000,000
February 7, 1947		3,611.11	2½%	.....	.....	.....	$1,000,000	.....	.....	1,000,000
February 7, 1947	5,019.00	11,736.11	1¼%	.....	.....	.....	.....	$6,500,000	.....	6,500,000
February 7, 1947		2,166.67	1½%	.....	.....	.....	.....	.....	$1,000,000	1,000,000
	$17,619.00	$29,541.67		$500,000	$4,500,000	$2,000,000	$1,000,000	$6,500,000	$1,000,000	$15,500,000

ANNUAL BOND REDEMPTION

Date	Fiscal Year						
December 15, 1946	1946-47	$500,000	.....	.....	.....	.....	.....	$500,000
December 15, 1947	1947-48	.....	$500,000	.....	.....	.....	.....	500,000
June 15, 1948	1947-48	.....	.....	$500,000	.....	.....	.....	500,000
December 15, 1948	1948-49	.....	1,000,000	.....	$250,000	.....	.....	1,250,000
June 15, 1949	1948-49	.....	.....	500,000	.....	.....	.....	500,000
December 15, 1949	1949-50	.....	1,500,000	.....	250,000	.....	.....	1,750,000
June 15, 1950	1949-50	.....	.....	500,000	.....	.....	.....	500,000
December 15, 1950	1950-51	.....	1,500,000	.....	500,000	.....	.....	2,000,000

June 15, 1951	1950-51	.....	.....	500,000	.....	.....	.....	500,000
December 15, 1951	1951-52	.....	.....	.....	.....	$500,000	.....	500,000
December 15, 1952	1952-53	.....	.....	.....	.....	500,000	.....	500,000
December 15, 1953	1953-54	.....	.....	.....	.....	1,000,000	.....	1,000,000
December 15, 1954	1954-55	.....	.....	.....	.....	1,750,000	.....	1,750,000
December 15, 1955	1955-56	.....	.....	.....	.....	1,750,000	.....	1,750,000
December 15, 1956	1956-57	.....	.....	.....	.....	1,000,000	$1,000,000	2,000,000
		$500,000	$4,500,000	$2,000,000	$1,000,000	$6,500,000	$1,000,000	$15,500,000

ANNUAL BOND INTEREST EXPENSE

Fiscal Year							
1945-46	$4,333.33	$6,500.00	.....	.....	.....	.....	$10,833.33
1946-47	7,500.00	22,500.00	$15,888.89	$8,888.89	$28,888.89	$5,333.33	89,000.00
1947-48	.....	21,250.00	20,000.00	25,000.00	81,250.00	15,000.00	162,500.00
1948-49	.....	17,500.00	15,000.00	21,875.00	81,250.00	15,000.00	150,625.00
1949-50	.....	11,250.00	10,000.00	15,625.00	81,250.00	15,000.00	133,125.00
1950-51	.....	3,750.00	5,000.00	6,250.00	81,250.00	15,000.00	111,250.00
1951-52	.....	.....	.....	.....	78,125.00	15,000.00	93,125.00
1952-53	.....	.....	.....	.....	71,875.00	15,000.00	86,875.00
1953-54	.....	.....	.....	.....	62,500.00	15,000.00	77,500.00
1954-55	.....	.....	.....	.....	45,312.50	15,000.00	60,312.50
1955-56	.....	.....	.....	.....	23,437.50	15,000.00	38,437.50
1956-57	.....	.....	.....	.....	6,250.00	7,500.00	13,750.00
	$11,833.33	$82,750.00	$65,888.89	$77,638.89	$641,388.89	$147,833.33	$1,027,333.33

SAN FRANCISCO AIRPORT
SCHEDULE No. 4
DETAIL OF INTERFUND ACCOUNTS RECEIVABLE
June 30, 1947

		Balance
Operating Fund:		
Accounts Receivable:		
Prior Year Taxes	$12,659.63	
Less Reserve	4,512.07	
Total		$8,147.56

SAN FRANCISCO AIRPORT
SCHEDULE No. 5
DETAIL OF INTERFUND ACCOUNTS PAYABLE
June 30, 1947

				Balance
DUE TO PUBLIC SERVICE ENTERPRISES:				
P.U.C.—Bureau of Light, Heat and Power:				
6/30/47	Gas and Electricity—June, 1947		$5,004.16	
P.U.C.—San Francisco Water Department:				
6/30/47	Repairs to Automotive Equipment	$963.03		
6/30/47	Insurance	747.98		
6/30/47	Install 400 ft. 6-inch C.I. Water Main	1,676.47		
6/30/47	Photostats	302.24		
6/30/47	Water Main Repairs	97.62		
6/30/47	Auto Insurance	511.00	4,298.34	
Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau:				
6-30-47	Field Engineering 1945 Bond Fund		134,925.35	$144,227.85
DUE TO GENERAL FUND:				
Department of Public Works:				
6/30/47	General Maintenance		$1,376.24	
Real Estate Department:				
6/30/47	Miscellaneous Expenses		10.57	
Employees' Retirement System:				
10/31/46	Contribution for October, 1946	$390.39		
11/30/46	Contribution for November, 1946	449.71		
12/31/46	Contribution for December, 1946	371.87		
1/31/47	Contribution for January, 1947	421.90		
2/28/47	Contribution for February, 1947	447.12		
3/31/47	Contribution for March, 1947	473.80		
4/30/47	Contribution for April, 1947	493.70		
5/31/47	Contribution for May, 1947	564.80		
6/30/47	Contribution for June, 1947	492.56		
6/30/47	Medical Services	14.30		
6/30/47	Hospital Services	24.00	4,144.15	5,530.96
				$149,758.81

SAN FRANCISCO AIRPORT MONTHLY TRAFFIC REPORT
AIRCRAFT MOVEMENTS
Fiscal Year 1946-1947

	Air Carrier	Itinerant	Local	Total
July	4,857	2,484	3,169	10,510
August	4,885	2,246	2,608	9,739
September	4,898	2,079	2,669	9,646
October	4,716	2,624	4,030	11,370
November	4,083	2,098	3,528	9,709
December	4,393	2,252	4,038	10,683
January	4,052	1,971	4,610	10,633
February	3,884	1,719	5,220	10,823
March	4,796	2,746	6,819	14,361
April	4,994	3,375	7,459	15,828
May	5,814	3,269	6,121	15,204
June	5,722	3,472	5,074	14,268
Total	57,094	30,335	55,345	142,774

SCHEDULED AIR CARRIER OPERATIONS
REVENUE PASSENGER ACTIVITIES SAN FRANCISCO AIRPORT

Month	Revenue Passengers In and Out		Percentage Increase,	Revenue Passengers On and Off		Percentage Increase,
	1945-1946	1946-1947	Decrease	1945-1946	1946-1947	Decrease
July	48,022	99,216	106.0%	40,760	84,980	108.0%
August	50,000	102,130	104.0	43,654	90,481	107.0
September	50,053	95,524	91.0	43,459	84,896	95.0
October	50,530	88,390	75.0	43,914	79,036	80.0
November	49,802	72,200	44.9	43,500	64,994	49.3
December	46,934	70,183	49.5	40,960	62,719	53.1
January	51,026	58,140	13.9	45,050	53,270	18.2
February	54,975	56,473	2.7	48,753	51,311	5.2
March	67,917	74,859	10.2	57,877	67,821	17.2
April	73,568	79,585	8.2	62,695	71,630	14.2
May	84,820	91,132	7.4	72,050	80,022	11.0
June	94,761	93,000	—1.8	80,829	81,042	.2
Total	722,408	980,832	35.7%	623,501	872,202	39.8%

SCHEDULED AIR CARRIER OPERATIONS
AIR MAIL AND AIR EXPRESS SAN FRANCISCO AIRPORT

Month	Pounds of Air Mail In and Out		Percentage Increase	Pounds of Air Express In and Out		Percentage Increase
	1945-1946	1946-1947	Decrease	1945-1946	1946-1947	Decrease
July	3,373,245	792,563	—76.0%	257,939	332,910	29.0%
August	3,516,774	736,761	—79.0	314,754	381,714	21.0
September	3,414,963	644,960	—81.0	277,565	425,913	53.0
October	3,191,749	782,341	—75.0	322,670	515,452	59.0
November	2,710,628	793,586	—70.7	297,178	520,440	75.1
December	2,606,178	1,210,424	—53.5	343,200	593,901	73.0
January	1,916,501	929,083	—51.5	270,287	416,094	53.9
February	1,323,560	906,089	—31.5	269,653	410,209	52.1
March	1,223,595	1,004,362	—17.9	318,891	545,372	71.0
April	1,187,101	1,021,041	—14.0	332,767	548,892	64.9
May	1,038,378	1,086,050	4.6	345,056	542,669	57.2
June	862,971	1,026,055	18.9	303,125	464,602	53.2
Total	26,365,643	10,933,315	—58.0%	3,653,085	5,698,168	55.9%

SAN FRANCISCO AIRPORT
APPROPRIATION STATEMENT
Period Ending June 30, 1947

Appropriation Number	Expenditures	Encumbrances	Unencumbered Balance of Allotments	Total Allotted to Date	Unallotted Balance of Appropriation	Reserve	Supplemental Appropriations and Transfers	Original Appropriation	Departmental Encumbrance Adjustment	Actual Unencumbered Balance of Allotments
664.110.00	$145,589.22	.....	.....	$145,589.22	.....	.....	*$21,493.78*	$167,083.00	.....	.....
.111.00	1,848.75	.....	.....	1,848.75	.....	.....	*451.25*	2,300.00	.....	.....
.112.00	3,095.07	.....	.....	3,095.07	.....	.....	*895.93*	3,991.00	.....	.....
.120.00	4,286.87	.....	.....	4,286.87	.....	.....	*1,114.13*	5,401.00	.....	.....
.199.00	.....	.....	$23,955.09	23,955.09	.....	.....	23,955.09	.....	.....	$23,955.09
.200.00	8,117.71	1,142.73	962.60	10,223.04	.....	.....	*8,976.96*	19,200.00	$21.00	941.60
.200.75	7,369.67	91.49	1,495.80	8,956.96	.....	.....	8,956.96	.....	.....	1,495.80
.212.00	15,609.84	10,329.00	361.16	26,300.00	.....	.....	1,500.00	24,800.00	.....	361.16
.238.00	.....	.....	420.00	420.00	.....	.....	*780.00*	1,200.00	.....	420.00
.300.00	5,905.52	723.71	220.77	6,850.00	.....	.....	1,000.00	5,850.00	.....	220.77
.800.03	.....	.....	.....	.....	.....	.....	*13,000.00*	13,000.00	.....	.....
.801.00	3.46	350.00	356.54	710.00	.....	.....	.....	710.00	*311.70*	668.24
.813.00	.....	600.00	.....	600.00	.....	.....	.....	600.00	.....	.....
.815.00	1,863.15	747.98	88.87	2,700.00	.....	.....	500.00	2,200.00	.....	88.87
.870.00	30,051.45	.....	11.16	30,062.61	.....	.....	10,526.61	19,536.00	.....	11.16
.900.00	2,502.67	.....	257.33	2,760.00	.....	.....	.....	2,760.00	.....	257.33
.901.00	2,000.00	.....	.....	2,000.00	.....	.....	.....	2,000.00	.....	.....
.913.00	.....	.....	.....	.....	.....	.....	*31,650.00*	31,650.00	.....	.....
.970.00	646.77	.....	.....	646.77	.....	.....	646.77	.....	.....	.....
.996.10	.....	.....	52.81	52.81	.....	.....	52.81	.....	.....	52.81
.996.11	.....	.....	26.34	26.34	.....	.....	26.34	.....	.....	26.34
.996.13	.....	.....	39.61	39.61	.....	.....	39.61	.....	.....	39.61
.999.00	51,454.88	.....	7,407.92	58,862.80	.....	.....	58,862.80	.....	6,145.40	1,262.52

.999.03	890.00	.....	310.00	1,200.00	.....	.....	1,200.00	.....	130.00	180.00
.999.04	32,516.90	.....	1,010.07	33,526.97	.....	.....	33,526.97	.....	875.49	134.58
.999.05	.....	.....	300.00	300.00	.....	.....	300.00	.....	.....	300.00
.999.06	1,287.20	.....	90.80	1,378.00	.....	.....	1,378.00	.....	223.20	*132.40*
.992.00	*1,179.50*	911.76	267.83	.....	.....	.....	.....	.....	.....	267.83
.991.00	7,821.44	3,667.63	339.93	11,829.00	.....	.....	11,829.00	.....	.....	339.93
564.000.00	.....	.....	765.77	765.77	.....	.....	765.77	.....	.....	765.77
.111.00	79.65	.....	.....	79.65	.....	.....	79.65	.....	.....	.....
.112.00	216.35	.....	.....	216.35	.....	.....	216.35	.....	.....	.....
.200.00	2,083.64	.....	82.47	2,166.11	.....	.....	2,166.11	.....	.....	82.47
.211.00	5,044.51	.....	214.79	5,259.30	.....	.....	5,259.30	.....	.....	214.79
.212.00	9,895.17	.....	3,804.83	13,700.00	.....	.....	13,700.00	.....	.....	3,804.83
.300.00	602.00	.....	512.63	1,114.63	.....	.....	1,114.63	.....	.....	512.63
.400.00	1,226.45	163.75	.....	1,390.20	.....	.....	1,390.20	.....	.....	.....
.801.00	40.51	.....	59.49	100.00	.....	.....	100.00	.....	.....	59.49
.813.00	386.62	.....	213.38	600.00	.....	.....	600.00	.....	.....	213.38
.815.00	1,741.66	.....	458.34	2,200.00	.....	.....	2,200.00	.....	.....	458.34
Total Airport Operating	$342,997.54	$18,728.05	$44,086.33	$405,811.92	.....	.....	$103,530.92	$302,281.00	$7,083.39	$37,002.94
Payrolls not Audited by Controller	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Controller's Totals	$342,997.54	$18,728.05	$44,086.33	$405,811.92	.....	.....	$103,530.92	$302,281.00	.....	.....
Account No. 2655:										
664.231.00	$57,272.85	.....	$14,727.15	$72,000.00	.....	.....	*$3,000.00*	$75,000.00	$10,684.14	$4,043.01
.800.02	299,565.00	.....	.....	299,565.00	.....	.....	.....	299,565.00	.....	.....
.800.03	589,000.00	.....	.....	589,000.00	.....	.....	.....	589,000.00	.....	.....
.860.00	.....	.....	8,014.00	8,014.00	.....	.....	.....	8,014.00	5,146.82	2,867.18
564.231.00	5,039.02	.....	.....	5,039.02	.....	.....	5,039.02	.....	.....	.....
.860.00	1,891.32	.....	*41.82*	1,849.50	.....	.....	1,849.50	.....	.....	*41.82*
	$1,295,765.73	$18,728.05	$66,785.66	$1,381,279.44	.....	.....	$3,888.52	$971,579.00	$22,914.35	$43,871.31

Italic figures denote loss and deficiency.

SAN FRANCISCO AIRPORT

1945 AIRPORT BOND FUND—APPROPRIATION STATEMENT

As of June 30, 1947

Appropriation Number		Allocated	Transfers	Allowance	Expenditures	Encumbrances	Unencumbered Balance of Appropriation
96.900 00	Unallocated Balance of Appropriations	$520,000.00	*$85,000.00*	$435,000.00	.....	.....	$435,000.00
.900.50	Office Building During Construction	30.000.00	*4,000.00*	26,000.00	$14,090.88	.....	11,909.12
.900.52	Preliminary Expense—Printing of Bonds	.....	3,545.45	3,545.45	3,317.21	.....	228.24
.900.53	Legal Fees and Contingencies	50,000.00	*33,445.45*	16,554.55	7,750.00	.....	8,804.55
.900.55	Architectural Services, Contract No. 92	.....	210,000.00	210,000.00	24,116.90	$185,883.10	.....
.900.56	Plans and Specifications (General Office)	180,000.00	.....	180,000.00	29,368.47	90,000.00	60,631.53
.900.57	Inspection, Supervision and Field Engineering	315,000.00	.....	315,000.00	.....	225,000.00	90,000.00
.900.58	Land Purchases	565,000.00	*80,000.00*	430,721.50	300,048.40	436.90	130,236.20
	Land Purchases—Reserve	.....	.....	54,278.50	.....	54,278.50*	.....
.900.64	Equipment	25,000.00	*4,800.00*	20,200.00	10,861.69	2,656.84	6,681.47
.911.00	Earth and Rock Fill	8,000,000.00	*7,860,497.00*	139,503.00	.....	.....	139,503.00
.911.00–1	Airport Extension Fill, Drainage Work, etc.—Contract No. 93	.....	3,729,713.00	3,729,713.00	385,603.73	3,344,109.27	.....
.911.01	Airport Extension Fill, Pavement and Related Construction—Contract No. 82	10,000.00	4,370,784.00	4,380,784.00	4,352,350.71	.....	28,433.29
.912.00	Field Drainage	840,000.00	*98,500.00*	741,500.00	25,825.35	26,697.60	688,977.05
.913.00	Drainage Control	250,000.00	.....	250,000.00	.....	6,411.00	243,589.00

.914.00	Improvements to Runways, Taxiways and Grounds	1,720,000.00	*120,000.00*	1,600,000.00	.....	987,163.50	612,836.50
.916.01	Relocation and Reconstruction for P.G.&E. Co.	350,000.00	.....	350,000.00	.....	350,000.00	.....
.921.01	Payment to State: Bayshore Freeway	1,250,000.00	.....	1,250,000.00	1,250,000.00	.....	.....
.922.00	Water Supply System	210,000.00	.....	210,000.00	392.85	69,964.25	139,642.90
.923.00	Sewerage System	156,000.00	.....	156,000.00	2,475.00	341.30	153,183.70
.924.00	Power Supply, Street and Field Lighting System Contracts No. 85, 89	160,000.00	13,900.00	173,900.00	18,027.30	6,684.17	149,188.53
.925.00	Telephone System	2,000.00	.....	2,000.00	.....	.....	2,000.00
.926.00	Gas Supply System	2,000.00	500.00	2,500.00	288.80	.....	2,211.20
.927.00	Bridges and Culverts	.....	4,000.00	4,000.00	2,483.34	.....	1,516.66
.927.01	Payment to State: Drainage Structures	185,000.00	.....	185,000.00	.....	185,000.00	.....
.940.00	Buildings and Appurtenances	580,000.00	*134,570.00*	445,430.00	.....	18,357.00	427,073.00
.960.00	Permanent Equipment	100,000.00	88,370.00	188,370.00	12,888.85	75,000.00	100,481.15
		$15,500,000.00	.....	$15,500,000.00	$6,439,889.48	$5,627,983.43	$3,432,127.09
	*Controller's Reserve	.....	.....	54,278.50	.....	54,278.50*	.....
	Less Departmental Encumbrances	.....	.....	.....	.....	1,165,211.00	1,165,211.00
	Controller's Totals	$15,500,000.00	.....	$15,445,721.50	$6,439,889.48	$4,408,493.93	$4,597,338.09
.000.00	Unappropriated Balance of Funds	14,119.00					
		$15,514,119.00					
	Expenditures	6,439,889.48					
		$9,074,229.52					
	Warrants Outstanding, June 30, 1947	525,722.58					
	Treasurer's Balance, June 30, 1947	$9,599,952.10					

Italic figures denote loss and deficiency.

SAN FRANCISCO AIRPORT
RECONSTRUCTION AND REPLACEMENT FUND—APPROPRIATION STATEMENT
As of June 30, 1947

Appropriation Number	Description	Brought Forward July 1, 1946	Budget 1946-47	Transfers	Total Allowances	Expenditures	Encumbrances	Expenditures and Encumbrances	Unencumbered Balance
64.925.00	Unallocated Balance of Funds	$34,649.13	$30,450.00	*$9,843.04*	$55,256.09	$638.25	.....	$638.25	$54,617.84
64.925.03	Rock Facing and Earth Wall Embankment on Sea Wall—Airport Contract No. 81	3,400.00	.....	*389.96*	3,010.04	3,010.04	.....	3,010.04	.....
64.925.06	Motorized Transportation and Conveying Equipment	.....	1,200.00	700.00	1,900.00	1,733.62	.....	1,733.62	166.38
64.925.07	Re-Dredging Outfall Channel—Contract No. 87	.....	.....	3,100.00	3,100.00	2,770.00	.....	2,770.00	330.00
64.925.08	Replacement of Water Main—Coast Guard Air Station	.....	.....	1,725.00	1,725.00	.....	$1,725.00	1,725.00	.....
64.925.09	Replacement of Fire Extinguishers	.....	.....	1,558.00	1,558.00	.....	1,558.00	1,558.00	.....
64.925.10	Recover and Reconstruct Main Lobby Furniture	.....	.....	1,124.90	1,124.90	.....	.....	.....	1,124.90
.10/1	Recover and Reconstruct Main Lobby D.Q.C.	.....	.....	1,275.10	1,275.10	.....	1,275.10	1,275.10	.....
64.925.11	Reconstruct High-pressure Gas Line	.....	.....	750.00	750.00	.....	746.67	746.67	3.33
		$38,049.13	$31,650.00	.....	$69,699.13	$8,151.91	$5,304.77	$13,456.68	$56,242.45
	Expenditures				8,151.91				
					$61,547.22				
	*Deposit Tag No. 10208 of 3/26/47				3,096.07				
	Treasurer's Balance 6/30/47				$64,643.29				

Italic figures denote loss and deficiency.

*Reclassified by J. E. 22 of August 31, 1947.

FIRST OF NEW POST WAR FLEET

Ten new 44-passenger White motor coaches lined up prior to parade through City

MUNICIPAL RAILWAY OF SAN FRANCISCO

WM. H. SCOTT
General Manager

WM. H. SCOTT
General Manager, Municipal Railway

General:

The fiscal year ended June 30, 1947, marked the completion of thirty-four and one-half years of continuous operation of the Municipal Railway, the last two and three-quarter years being consolidated operation with the properties of the former Market Street Railway Company acquired through purchase on September 29, 1944.

Of the total purchase price of the Market Street Railway Company properties amounting to $7,500,000, the amount of $2,000,000 was paid at the time of purchase and additional amounts from earnings—$2,000,000 in the fiscal year 1944-1945, $1,313,088.44 in 1945-1946, and $252,564.10 in 1946-1947. The remaining balance on the purchase price at June 30, 1947, was $1,934,347.46.

Interest paid from date of purchase to June 30, 1947, amounted to $332,433.21.

Replacement, reconstruction, rehabilitation and modernization of the consolidated system has been retarded due principally to the need for funds to finance same. However, since September 29, 1944, from earnings the amount of over $3,500,000 has been expended and approximately $1,500,000 is in the course of expenditure for capital items.

On January 29, 1947, the Municipal Railway received the amount of $688,751.58 from the Market Street Railway Company, which sum represented the balance of impounded fares between six cents and seven cents charged by the Market Street Railway Company prior to consolidation on September 29, 1944. Under decision of the United States Supreme Court, this money is to be used for capital expenditures in behalf of the Municipal Railway. Accordingly, from these funds orders were placed for a total of thirteen forty-four passenger motor coaches and twenty-four forty-passenger trolley coaches.

Equipment Received and on Order:

During the year, the railway received forty new forty-four passenger motor coaches and sixteen forty-passenger trolley coaches. Of the motor coaches, ten were of the new twin-engine, hill-climbing type.

As of June 30, 1947, there were on order thirty forty-four passenger motor coaches, twenty-four trolley coaches, and ten street cars.

Since consolidation on September 29, 1944, the railway has received 107 new motor coaches and sixteen new trolley coaches. The total number of passenger-carrying vehicles received or on order since consolidation is 187.

Traffic:

A decline in the total number of passengers carried during the year, as compared with the previous year of 11,384,329, or 3.49 per cent, was attributed to the increased use of private automobiles, the greatly diminished number of service personnel, and the return of many of the civilian wartime population to their former homes.

Notwithstanding this decrease in passenger traffic, it was necessary to exert the utmost effort to maintain in operation a sufficient number of cars and coaches to supply needed service. The age and condition of the acquired Market Street Railway Company rolling stock and facilities, and the number of cars and coaches damaged in accidents, were major factors in the burden placed upon the mechanical repair department.

The transportation service rendered, while far short of being adequate or improved to the extent desired, particularly during peak periods, did show a marked improvement over the previous year. This improvement was accomplished mainly through sustained and constant efforts on the part of the management in reroutings, institution of new motor coach routes, supplementing or replacing street car operation, and a great number of schedule changes.

Transportation Changes:

On October 6, 1946, the Sunset Express service was inaugurated providing rapid motor coach service from the Sunset district to the downtown district, resulting in a saving of from ten to fifteen minutes in traveling time between terminals.

On October 7, 1946, on the Third and Kearny Street line all street car operation was discontinued and replaced by motor coach operation.

On December 5, 1946, line "H" was extended from the old terminal at Potrero Avenue and Army Street to Third Street and San Bruno Avenue.

On December 8, 1946, the old Haight Street division of the acquired Market Street Railway Company was abandoned on account of the bad physical condition of the building. Lines numbers six, seven, and eight, operating from this division, were transferred to the McAllister division, line number four from the McAllister division to the Geary division, and line number twenty-one from the McAllister to the Sutro division.

On June 9, 1946, street car operation on street car line "E" was discontinued, and conversion to trolley coach operation was begun. Complete conversion to trolley coach operation of line "E" and consolidation with old trolley coach line "R" was effected on July 20, 1947, operating from Lyon and Greenwich Streets to Army and South Van Ness Avenue.

The construction of tracks across Market Street from Stockton Street to Fourth Street was completed on September 8, 1947. On that date line "F" commenced through service from Scott and Chestnut Streets to the Southern Pacific Depot to render more adequate transportation into the factory and commercial district

REPLACING OLD "E" LINE "DINKIES"
One of a group of 16 new trolley coaches put into service on Union Street, replacing street cars.

south of Market Street and to augment the commuter service between the Southern Pacific Depot and Market Street.

Land Sales and Purchases:

In November, 1946, two parcels of land located at Jefferson and Jones Streets, not required for railway operation, were sold for the total amount of $119,500. Likewise land at Forty-eighth Avenue and Taraval Street was sold for the amount of $19,800. A net profit of $81,217.51 was realized on these sales.

On March 10, 1947, the railway purchased all of Assessor's Block 19, bounded by Beach, Stockton, North Point, and Powell Streets, from the United States of America for the sum of $183,400. This land is to be used as a site for a new motor coach garage.

Rolling Stock—Trackage:

As of June 30, 1947, the passenger-carrying equipment owned by the consolidated system consisted of 599 electric street cars, thirty-eight cable cars, 253 motor coaches, and thirty-four trolley coaches. In addition to the above, the railway rented nineteen motor coaches from the United States Navy.

Of the equipment owned, six electric street cars, eleven cable cars, and three motor coaches could be classified as obsolete and permanently out of service.

The total miles of single track owned by the consolidated system is as follows:

Single Track Owned and Operated		
Including Spurs, Turn-outs, Sidings, and Car House Tracks		
Electric Street Car	247.702	
Cable Car	6.820	254.522
Single Track Owned—Non-Operated		
Electric Street Car	40.958	
Cable Car	4.008	44.966
Total Track Owned		299.488

Two trolley coach routes were operated totaling 24.33 round trip miles of street traversed.

Forty-seven motor coach routes were operated totaling 342.02 round trip miles of streets traversed, and 413.41 round trip route miles.

Radio Control System and Headway Recorder:

During the year two new facilities were inaugurated designed to speed up schedules and to control and improve service. One is a two-way radio installation with transmitter located on Twin Peaks. This installation provides contact with two-way radio-equipped automobiles.

The other is a headway recorder system, electrically recording headways.

Both installations are operated from a central control room at the Geary Street car house.

Central Control, with Radio Station KCRJ and twenty-nine mobile units, was inaugurated on January 6, 1947.

The following is a statement of messages transmitted by radio for the period January 6 to June 30, 1947:

RADIO MESSAGES TRANSMITTED

1947	Monthly Total	Daily Averages
January	5,604	216
February	5,935	212
March	7,141	230
April	6,499	217
May	6,464	209
June	6,818	227
Total	38,461	219

Central Control is equipped with headway recorders to handle forty locations, two contactors at each location to record cars traveling in both directions. On January 9, 1947, the first three locations were put into operation. During August, 1947, seventeen additional locations were added, making a total of twenty locations now being recorded in the Central Control. It is expected to have the full complement of forty locations in operation in the near future.

In June, 1947, a radio receiver with a fixed frequency tuned to Police Radio Station KGPD was installed, enabling the operators of Central Control to be informed of fires and accidents which may affect the street car lines or coach routes of the railway.

The Central Control office is in operation daily from 6:00 a.m. to 1:30 a.m., during which time the operator in charge of the headway recorders receives and answers all calls for information relative to the operation of the railway. All such calls are routed from the main telephone switchboard direct to the headway recorder desk.

Reports of all operators of Central Control are made daily and forwarded to the various department heads and to the General Manager. A file of all reports is maintained in the Central Control office.

All operations of Central Control, including radio, headway recorder, and information desk, are performed by a staff of four men who are under the supervision of Mr. Hobart G. Wilson, Senior Inspector.

Motor Coach Garage:

All motor coach operations are centralized at the motor coach garage at Twenty-fourth and Utah Streets. All motor coach routes operate out of this division, and all repair and maintenance facilities are located there. During the year, considerable new repair and maintenance equipment was provided, and improvements in facilities made. However, the greatly increased motor coach operation of the railway, as evidenced by the forty-seven motor coach routes operated, covering 413 round-trip route miles, operated by 272 motor coaches, has taxed the present motor coach garage facilities to the utmost.

Land for a site for a new motor coach garage, comprising a block bounded by Beach, Stockton, North Point, and Powell Streets, was purchased on March 10, 1947, for the sum of $183,400, but funds are not available for construction at this

THE NEW TWIN COACH

One of 10 new twin-engined hill climbers put into service on routes with unusually steep grades

time. Elsewhere in this report will be found details covering the activities of the motor coach garage.

Modernization—Rehabilitation:

Administrative Transportation Planning Council Plan—The Administrative Transportation Planning Council appointed by the Mayor consists of the City Planning Commission, the Police Commission, the Public Utilities Commission, and the Chief Administrative Officer. The Manager of Utilities, the Director of Public Works, the Director of Planning, and the Deputy Chief of Police comprise the technical committee of the council. This council, in connection with the preparation of San Francisco's Master Plan for improvements, has prepared a plan for the city's vital needs for improvement in its circulatory system including transit, traffic, and thoroughfares.

The transit, traffic, and thoroughfare phases of the plan representing the combined thinking of all city departments concerned, as expressed through the Administrative Transportation Planning Council, have been approved by an expert committee of private citizens and have been ordered submitted to the people by the Mayor and the Board of Supervisors.

These phases comprise a closely-knit and dove-tailed program, fitted together by unanimous agreement of these experts, and they include the best and most workable features of the many plans previously submitted through official agencies.

The prime purpose of this program is to modernize the city's circulatory system, thus preventing harmful decentralization with consequent adverse effects on property values and public convenience. The prime purpose is to provide means and space to move people faster, more safely, and more comfortably.

Recognition has been made of the necessity for easy and fast access between all parts of the city so that no district will be far removed in terms of time from any other district.

This program represents the best thinking of technical experts at this time. Continuing studies made by local and nationally known experts which may suggest adjustments in the program will be given full consideration by all authorized agencies before expenditures are approved for any purpose.

The traffic, transit, and thoroughfare program embodies proposals as outlined below:

Bond Proposals: On November 4, 1947, an election will be held on several proposals for general obligation bond issues to finance modernization of the railway, to pay off remaining debt to the Market Street Railway, to provide for removal of street railway tracks, and to provide for adequate off-street parking facilities. Briefly these proposals are as follows:

No. 1. **$20,000,000 General Obligation Bonds.** Issuance of $20,000,000 general obligation bonds largely payable from revenues of the railway for modernization of the entire municipal transit system through acquisition of new vehicles, modernization of existing equipment, and reconstruction of tracks, shops, garages, and the electrical system. This program proposes a fleet of 922 vehicles, composed of 256 street cars, 399 trolley coaches, and 267 motor coaches, the distribution and exact numbers of which will be determined by further expert study and the requirements indicated by the step by step experiences had as the moderniza-

WELCOME TO SAN FRANCISCO
General Manager W. H. Scott acknowledges first of an order of 30 new White buses.

tion program progresses. It is estimated that operation of modern equipment would save, $1,200,000 annually in accident claims and maintenance costs.

No. 2. **$2,200,000 General Obligation Bonds.** Issuance of general obligation bonds in the amount of $2,200,000 to pay the remaining debt to the Market Street Railway. As the unpaid balance is now only $1,881,399, only this amount of bonds will be required to be sold. A saving in the interest rate from the present four per cent to probably two per cent is anticipated.

No. 3. **$22,850,000 General Obligation Bonds.** Issuance of $22,850,000 of general obligation bonds for major thoroughfare and street reconstruction projects. Principal proposals include the removal of 160 miles of street railway track and the reconstruction of these streets from curb to curb; the construction of laterals, tunnels, and major thoroughfare extensions; and the installation of a system of modern three-light synchronized traffic signals.

No. 4. **$5,000,000 General Obligation Bonds.** Issuance of $5,000,000 general obligation bonds to establish a fund to enable the city to stimulate the provision of adequate off-street parking facilities both within, and on the fringes of, the Metropolitan Traffic District. This measure will make possible the maximum use of downtown streets by auto traffic and mass transit.

No. 5. A charter amendment which is a companion measure to No. 2 above legalizes the payment for the balance of the debt due to the Market Street Railway Company on the purchase of their properties out of the proceeds of the bond issue.

Election Results—Bond Proposals:

As the bond election above mentioned was held on November 4, 1947, prior to the date of sending this report to the press, and as the unofficial returns are available, it can be stated that all proposals carried by large margins. The unofficial returns are as follows:

	Yes	No
No. 1—$20,000,000 General Obligation Bonds	178,614	54,386
No. 2— $2,200,000 General Obligation Bonds	172,153	57,920
No. 3—$22,850,000 General Obligation Bonds	179,207	40,027
No. 4— $5,000,000 General Obligation Bonds	160,302	66,920
No. 5—Charter Amendment enabling legislation relative to No. 2	166,413	56,697

The first four items required a two-thirds majority and the fifth just a simple majority.

Cable Car Retention:

At the same election a charter amendment, adding Section 119.3, making mandatory the retention of the present and existing Municipal Railway owned cable car system was approved, the unofficial returns being—Yes, 167,462 and No, 51,541.

Expenditures for Modernization and Rehabilitation:

While funds to be derived from the issuance of the bonds as approved by the voters will not be available until early in 1948, certain preliminary steps have already been taken as of this writing (November, 1947) to facilitate the purchase of new motor and trolley coaches and railway materials and to provide for track removals and reconstruction.

Proposals have been made as of November, 1947, to expend $6,529,000, of which amount $6,500,000 is from new bond funds, the program being as follows:

No. 1—$3,290,000 for twenty new fifty-eight passenger motor coaches of the articulated type, sixty forty-four passenger motor coaches, and ninety trolley coaches.

No. 2—$1,054,000 for the construction of a new bus garage to house 310 motor and trolley coaches.

No. 3—$582,000 for 21.16 miles of overhead wiring for trolley coaches to permit conversion of the number five McAllister Street and the number twenty-one Hayes Street lines from street car to trolley coach operation.

No. 4—$1,103,000 for reconstruction of the inner tracks on Market Street from Eddy Street to Valencia Street, and on Ocean Avenue and Onondaga Avenue from Junipera Serra Boulevard to Mission Street.

No. 5—$500,000 for remodeling of the Geary Street car house.

Track removals and repaving to be done as soon as possible include the tracks on Sansome Street, Third Street, Kearny Street, Polk Street, Larkin Street, Divisadero Street, and Twentieth Avenue. Time will be necessary to effect the overall modernization and rehabilitation of the railway, but all possible speed will be made to this end. The funds now having been provided, the rate of progress will depend greatly upon availability of equipment and materials and upon the result of studies now being made relative to construction, reconstruction, and removals.

ONTO THE RAMP
Another new 44-passenger White motor coach is unloaded from railway car.

Population Growth:

The population of San Francisco is now estimated at 850,000, which figure compared with the census figure of 634,536 in 1940 shows an increase of 215,464 or thirty-four per cent.

There has been a similarly great increase in population in the immediate bay area cities adjacent to San Francisco. The combined population of San Francisco and the bay area is estimated at 2,015,000. This large increase in population indicates the growing importance of San Francisco as a great world-trade, agricultural, industrial, manufacturing, and financial center. Considering the hilly topographical features of the city, the density of its business, financial, hotel, and apartment area, with many of its main streets converging into the main artery of Market Street, and also considering the worn-out condition of its present transportation facilities, the magnitude of the task of supplying San Francisco with adequate, modern transit facilities is very apparent.

Passenger Receipts:

Owing to the consolidation and to changes in the rates of fare from five cents to seven cents on September 29, 1944, and from seven cents to ten cents cash, or eight and a third cents token rate, on May 20, 1946, financial and operating figures for the past year as compared with the previous year and prior years will show abnormal differences and will not reflect a true picture of the street railway transportation business of the city.

The rate of fare of ten cents cash, or eight and a third cents token rate, placed in effect on May 20, 1946, remained unchanged during the entire past year.

Passenger revenue for the year amounted to $18,890,017, as compared with the previous year's figure of $17,290,400, an increase of $1,599,617, or 9.25 per cent. The record passenger receipts for a single day occurred on July 24, 1946, and amounted to $64,872.37. A comparison of the daily average passenger receipts for the past four fiscal years is given below:

DAILY AVERAGE PASSENGER RECEIPTS

	1946-1947 1946	1945-1946 1945	1944-1945 1944	1943-1944 1943
July	52,153	48,526	18,680	16,895
August	52,769	47,850	19,589	16,936
September	52,876	46,542	19,812	17,665
October	54,747	48,274	48,908	18,017
November	52,253	46,010	47,483	18,119
December	52,110	44,409	46,781	17,714
			19,360*	
Daily Average—July to December	52,832	46,942	47,724†	17,554
	1947	1946	1945	1944
January	50,506	45,174	46,004	17,527
February	51,700	44,723	47,649	18,374
March	51,316	46,116	48,385	19,484
April	53,000	47,333	48,455	19,193
May	50,987	49,831¶	49,476	19,091
June	49,688	55,874	51,137	19,482
Daily Average—January to June	51,190	48,152	48,518	18,859
Daily Average—July 1 to June 30	52,011	47,540	48,253‡	18,203

*Average July 1, to September 28, 1944.
†Average September 29 to December 31, 1944.
‡Average September 29 to June 30, 1945.
¶Rate of fare increased from 7c to 10c cash or 8⅓c token rate on May 20, 1946.

Cash passenger receipts per hour operated for the past year were $6.70 for electric street cars as compared with $6.14 in 1945-1946, $6.17 in 1944-1945, $5.58 in 1943-1944, $5.06 in 1942-1943, and $4.33 in 1941-1942.

For cable cars the like figure per hour was $5.89 as compared with $5.20 in 1945-1946, and $6.23 in 1944-1945, no other previous years' comparisons being available.

The motor coach figures were $3.66 per hour as compared with $3.20 per hour in 1945-1946, $3.16 per hour in 1944-1945, $2.71 in 1943-1944, $2.22 in 1942-1943, and $1.78 in 1941-1942.

Trolley coaches showed $4.44 per hour as compared with $4.40 in 1945-1946, $4.86 in 1944-1945, $4.86 in 1943-1944, $4.13 in 1942-1943, and $3.30 in 1941-1942.

The gross receipts from all sources per hour operated for cars and coaches combined were $5.85 in the year 1946-1947, $5.43 in 1945-1946, $5.65 in 1944-1945, $5.26 in 1943-1944, $4.73 in 1942-1943, and $4.02 in 1941-1942.

In reviewing all of the above figures on receipts per hour, consideration must be given to the fare rates existing in respective years.

Passengers Carried:

The total passengers carried on cars and coaches during the year were 314,623,064 as compared with 326,007,393 in 1945-1946, 295,306,166 in 1944-1945, and 167,348,356 in 1943-1944. A like figure for the prewar year 1940-1941, before consolidation with the Market Street Railway Company, was 108,822,011.

Total passengers carried during the year by types of service were 225,244,644 on electric street cars, 9,239,044 on cable cars, 73,152,144 on motor coaches, and 6,987,232 on trolley coaches.

These figures on total passengers carried, as compared with the previous year, represent a decrease of 29,501,425 for electric street cars, an increase of 1,457,142 for cable cars, an increase of 16,815,103 for motor coaches, and a decrease of 155,149 for trolley coaches.

Revenue passengers carried during the year by cars and coaches totaled 224,003,684 as compared with 244,450,767 in the previous year, a decrease of 20,447,083.

Revenue passengers carried by types of service for the year were 168,165,395 for electric street cars, 5,926,214 for cable cars, 44,906,806 for motor coaches, and 5,005,269 for trolley coaches. As compared with the previous year, electric street cars showed a decrease of 29,187,717, cable cars an increase of 986,285, motor coaches an increase of 8,025,122, and trolley coaches a decrease of 259,773.

Financial Notes on Operation:

Gross operating revenues for the fiscal year totaled $19,038,756 as compared with $17,437,749 in the previous year, an increase of $1,601,007, which increase is the result of the increased fare rate of ten cents cash or eight and a third cents token fare placed in effect on May 20, 1946.

Miscellaneous non-operating income totaled $51,372 which included profit on sale of land, interest received on bank balances, amount received from sales of scrap, and value of salvaged materials, less charges for loss on plant and equipment retired.

Results of operations for the year showed a deficit of $531,150 as compared with a net profit of $1,077,036 in 1945-1946, making a total decrease in net profit between the two years of $1,608,186.

Major factors in the decrease in net profit for the year are the increased amount provided for accidents, an increase in the provision for depreciation, increased platform and per diem wages, and the still rising cost of materials, supplies, and services.

On account of the potential liability for payments on accident claims filed, both claims in litigation and non-litigated claims, totaling approximately $15,500,000, it was considered conservative to mantain the accident reserve at about its present amount—$2,357,454. Based on previous experience of payments and costs, with relation to the amount of claims filed, an amount equaling ten per cent of the passenger revenue was used as a basis of a charge for provision for accidents. The charge to operations for the provision for accidents, thus calculated, totaled $1,889,002 for the year as compared with $1,729,758 in the previous year, an increase of $159,244.

The provision for depreciation charged to operations for the year was $1,073,838, an increase of $55,044 over the prior year.

Other charges to income during the year were $32,083 for bond interest on bonds of the original Municipal Railway properties, $85,721 for interest on balances due the Market Street Railway Company for properties purchased, and $14,116 taxes on real property.

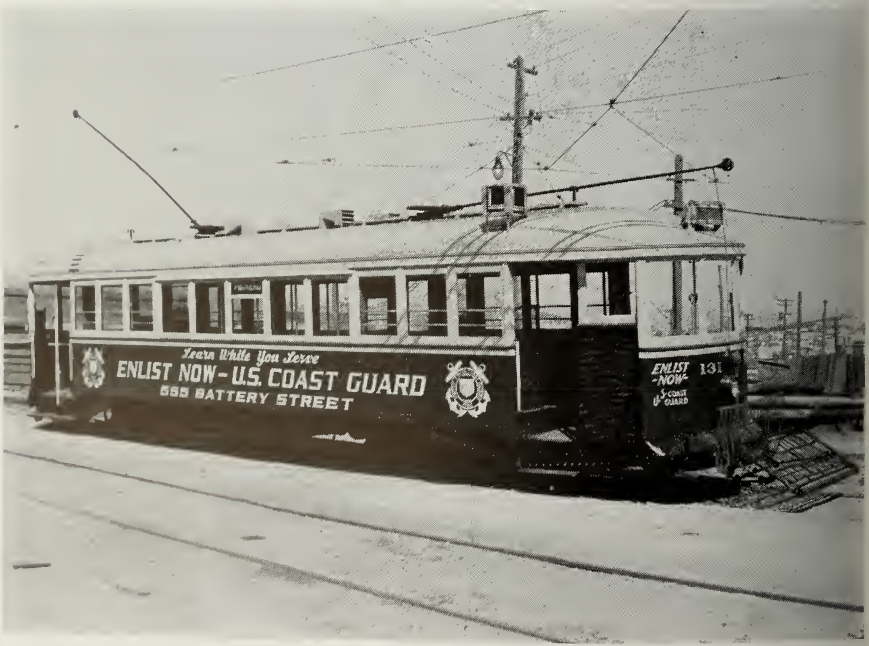
Operating expenses, not including reserves for depreciation and accidents or interest charges, totaled $16,526,518 in 1946-1947 as compared with $13,356,166 in 1945-1946, an increase of $3,170,352, or 23.74 per cent. While car and coach hours operated increased 66,558 hours over the previous year, the major cause for the increase in operating expenses is accounted for by the increased labor and material costs. Platform wages were increased from a sliding scale of ninety cents to ninety seven and a half cents, and bus operators' wages from a sliding scale of ninety-five cents to one dollar and two and a half cents, to a flat one dollar and twenty-four cents per hour for all men.

During the year the railway redeemed the amount of $100,000 of original Municipal Railway bonds and paid the sum of $252,564 on the balance due on the purchase of the Market Street Railway Company's properties. This leaves the amount of $600,000 outstanding on the original Municipal Railway bonds and the amount of $1,934,347 due on the purchase of the Market Street Railway Company's properties.

By types of operation for the year, electric street cars showed a profit of $288,900, cable car operation resulted in a loss of $125,741, motor coach operation resulted in a loss of $736,626, and trolley coach operation showed a profit of $42,317, the combined system loss being $531,150.

Expenses Per Car Hour
Mileage and Hours Operated:

Operating expense per car hour, not including reserves for depreciation and accidents or interest charges, was $5.67 for electric street cars, $6.56 for cable cars, $3.86 for motor coaches, and $3.31 for trolley coaches. Like figures for the previous year were $4.49 for electric street cars, $5.48 for cable cars, $3.37 for motor coaches, and $2.69 for trolley coaches.



IN THE PUBLIC SERVICE

Cars pictured on this and accompanying page were especially painted for public causes.

K K
GIVE TO YOUR COMMUNITY CHEST

N
JOIN AN ELITE CORPS OF GLORIOUS TRADITION
UNITED STATES MARINE CORPS
Join Now 90 Golden Gate Avenue

Total expense per car hour, including all charges, was $6.77 for electric street cars, $7.50 for cable cars, $4.51 for motor coaches, and $4.09 for trolley coaches. Like charges for the previous year were $5.52 for electric street cars, $6.43 for cable cars, $3.95 for motor coaches, and $3.49 for trolley coaches.

System costs per hour for all types of operation were $5.06 for operating expense and $6.01 for all charges. The previous year showed $4.18 for operating expense and $5.09 for all charges.

The total mileage operated by Municipal Railway cars and coaches during the year was 30,063,299 as compared with 29,454,947 miles in the previous year, an increase of 608,352, or 2.07 per cent. Electric street cars operated 18,306,441 miles, cable cars 458,162 miles, motor coaches 10,412,688 miles, and trolley coaches 886,008 miles. As compared with the mileage operated in the previous year, electric street car mileage operated decreased 1,583,498 miles, cable car mileage increased 69,958 miles, motor coaches increased 2,060,324 miles, and trolley coaches increased 61,568 miles.

Car and coach hours operated totaled 3,263,950 for the year as compared with 3,197,392 in the previous year, an increase of 66,558 hours, or 2.08 per cent.

Electric street cars operated 2,078,734 hours, cable cars 84,034 hours, motor coaches 1,007,625 hours, and trolley coaches 93,557 hours. As compared with the previous year, electric street car hours operated decreased 159,238 hours, cable car hours increased 17,297 hours, motor coaches increased 199,337 hours, and trolley coaches increased 9,162 hours.

Depreciation:

The provision for depreciation for the year charged to operations was determined in accordance with the provisions of Sections 119.1 and 128 of the Charter and amounted to $1.073,837.58. Of this amount $435,186.30 is applicable to the original Municipal Railway properties and properties purchased subsequent to the acquiring of the Market Street Railway Company's properties on September 29, 1944, and the amount of $638,651.28 is applicable to the properties acquired from the Market Street Railway Company.

The amount of $435,186.30 applicable to original Municipal Railway properties and properties purchased subsequent to September 29, 1944, was determined by applying certain basic rates and lives of properties as established by engineers and accountants to the cost of said properties as of June 30, 1946. This amount is 3.543 per cent of the cost of road and equipment as of that date. See Schedule II of this report for details.

The amount of $638,651.28 applicable to the properties acquired from the Market Street Railway Company was determined from an appraisal and valuation of said properties made by the Bureau of Engineering of the Public Utilities Commission. This valuation detailed all properties acquired, giving historical costs, estimated lives of properties, expired and remaining lives of same, accrued depreciation to date of acquisition, September 29, 1944, and an annual provision to be made for depreciation.

A summary of the figures after reflecting retirements to June 30, 1946, is as follows:

Historical Cost	Depreciable Cost	Accrued Depreciation	Annual Depreciation
$31,904,159.33	$29,210,689.06	$23,575,960.59	$883,017.56

Of the above annual depreciation figure of $883,017.56, the amount of $244,366.28 was charged against a deferred credit account entitled "Excess of

Appraised Valuation over Purchase Cost" in accordance with the procedure established by the accounting firm which made the independent audit in the fiscal year 1944-1945, the year of acquisition of the Market Street Railway Company's properties.

The balance of $638,651.28 was charged against operations on the Income statement. See Schedule II-A of this report for details.

The indebtedness against the consolidated Municipal Railway properties at June 30, 1947, consists of $600,000 in bonds outstanding and $1,934,347.46 unpaid on the purchase price of the Market Street Railway Company properties. The $600,000 in bonds is the balance outstanding on the Municipal Railway bond issue of 1913, originally totaling $3,500,000 and being amortized at the rate of $100,000 per year.

The $1,934,347.46 due the Market Street Railway Company is the balance of the purchase price of $7,500,000, $2,000,000 of which was paid at the time of acquisition, $2,000,000 during the fiscal year 1944,-1945, $1,313,088.44 during the fiscal year 1945-1946, and $252,564.10 in 1946-1947.

The first payment was from earnings of the original Municipal Railway system and the latter three payments from earnings of the consolidated system.

Platform Wages:

At a general election held on November 5, 1946, a charter amendment was voted upon amending Section 151.3 of the Charter, which amendment provided for a standardized method for fixing wages of Municipal Railway platform men and bus operators. The amendment was approved by the voters by a vote of 181,059 "yes," to 55,557 "no." The amendment was ratified by the State Legislature on January 7, 1947.

This amendment provides that the wages of platform men and bus operators of the Municipal Railway shall be fixed each year at the average of the two highest wage schedules of platform employees and bus operators of other street railway systems in California in effect on July 1 of that year.

The Civil Service Commission is required to certify to the Board of Supervisors the two highest wage schedules, and the Board of Supervisors is required to fix a rate which is the average of the two.

The amendment provided that the wage schedules for the fiscal year 1946-1947 be so determined. Accordingly, the rate of one dollar and twenty-four cents per hour was fixed for platform men and bus operators for the fiscal year commencing July 1, 1946.

The amendment further provides that in the event the average wage schedule of other railways as of July 1 in any year is less than the rates fixed by the Board of Supervisors on March 18, 1946, then the new rate shall be the same as the rates fixed March 18, 1946. These rates per hour for platform men were one dollar for the first six months, one dollar and five cents for the second six months, and one dollar and ten cents thereafter, and for bus operators one dollar and five cents for the first six months, one dollar and ten cents for the second six months, and one dollar and fifteen cents thereafter.

Commencing July 1, 1946, the amendment further provides for time and one-half for six holidays each year and designates that platform employees and bus operators shall receive twenty cents extra per hour while instructing new employees.

Austin's
MEN'S SHOES

NEW LOOK FOR MARKET STREET
Four scenes depicting reconstruction of inner tracks on city's main artery.

The increased cost to the railway for the rate of one dollar and twenty-four cents per hour fixed for the year 1946-1947, plus the overtime for six holidays and the twenty cents extra per hour for instructing, amounted to approximately $1,500,000.

Employees:

The total number of employees as of June 30, 1947, was 4,099. Of this number 2,887 were platform employees, 617 shop employees, 218 track employees, and 377 office and supervisory employees. Included in the platform employees were 182 women.

During the year the railway continued to employ platform and other employees on a limited tenure basis, that is employees secured through informal and non-competitive tests in accordance with Section 145.1 of the Charter which provides for employments in time of war.

As of June 30, 1947, on account of the action of the President in December, 1946, declaring cessation of hostilities, limited tenure appointments could no longer be made, and it was necessary to revert to the employment of regular civil service personnel as rapidly as possible.

In accordance with Section 149 of the Charter, non-civil service employees could continue to work for another ninety days after June 30, 1947. Further time can be allowed if the Mayor should declare an emergency.

During the year and subsequent to June 30, 1947, every effort has been made to replace all non-civil service employees with regular civil service employees from competitive lists. To this end the Civil Service Commission and the railway made every effort through advertising to secure regular civil service personnel. Civil service tests were conducted on March 14, 1947, April 21, 1947, May 9, 1947, and weekly thereafter to the close of the year to secure eligible lists of platform employees.

As of June 30, 1947, there were still 1,125 non-civil service platform employees in the employ of the railway.

Training of street car and coach operators by the training department during the year, while showing a decrease in volume of employees trained as compared with the previous year, remained at a high level. The number of applicants processed through this department during the year was 1,280 of which number 1,117 completed their training and qualified and 163 did not complete their training and failed to qualify. The number of platform employees handled for training, totaling 1,280, is 44 per cent of the number employed as of June 30, 1947. The number that qualified for regular employment, totaling 1,117, is 39 per cent of the total number in service on June 30, 1947.

In the previous year the total number of platform employees handled for training was 2,246, and the number that qualified was 1,857. No new women platform employees have been employed since August 27, 1945, but there are still 182 women platform employees working who were employed previous to that date.

In addition to the work of training platform employees to the point of their qualifying for regular employment, a program of follow-up and instruction on safety operation is conducted. During the year this activity resulted in a total of 30,938 contacts having been made with operators on the various lines by instructors riding with platform employees and by their observing operation and giving instructions.

The cost of training employees in platform operation has been exceedingly heavy, amounting to about $280,000 for the year, or over $250 per employee trained and qualified.

Thirty-four and One-half Years' Operation:

The Municipal Railway on June 30, 1947, had completed thirty-four and one-half years of operation, the past two and three-quarters years being consolidated operation with the acquired properties of the former Market Street Railway Company. Elsewhere in this report will be found mention of the purchase.

The total income from the start of operations on December 28, 1912, to June 30, 1947, amounted to $160,766,933, which included $5,481,000 received from sale of bonds, $2,282,481 contributed, $699,383 interest on bonds owned and on daily cash balances, $70,230 received as a subsidy from the State Board of Harbor Commissioners, and $323,189 miscellaneous profit and loss items. Passenger revenue and other revenue totaled $151,910,650.

The total expenditures other than capital expenditures from the start of operations on December 28, 1912, to June 30, 1947, were $131,375,301, of which operating expenses amounted to $120,347,044, bond interest charges $4,624,434, interest during acquisition $332,433, payments for injuries and damages $5,880,826, taxes $36,895, and miscellaneous profit and loss charges $153,669.

The net profit from operations in the thirty-four and one-half years of operation totals $6,979,936. This amount, plus the amount of $2,282,481 contributed, makes a total surplus of $9,262,417 as of June 30, 1947.

Bonds totaling $4,881,000 were retired out of a total of $5,481,000 issued.

Capital expenditures for road and equipment purchased amounted to $23,551,907, $5,481,000 of which was derived from monies received from bond sales, $14,097,486 paid from or to be paid from earnings and contributions, and $3,973,421 from the reconstruction and replacement fund. Of the above figure of $14,097,486, the amount of $1,934,347 is still unpaid on the Market Street Railway Company purchase.

Road and equipment retired based on cost totaled $2,446,251, of which $1,912,790 was charged to the depreciation reserve, and $533,461 charged to operating expense or salvaged. This leaves a balance of road and equipment on hand and in use, based on cost as of June 30, 1947, in the amount of $21,105,657.

On June 30, 1947, net cash, receivables and stores on hand, after deducting all liabilities with the exception of $1,934,347 balance due on the Market Street Railway Company purchase, resulted in net free assets in the amount of $3,426,533. This compares with net free assets of $3,859,453 shown on June 30, 1946, a decrease of $432,920.

During the thirty-four and one-half years of operation, the Municipal Railway carried 3,459,245,546 passengers. Passenger coach and car miles operated total 352,309,703, and car and coach hours operated totaled 37,019,530.

ORGANIZATION AND PERSONNEL

Management:

Wm. H. Scott.....General Manager

Transportation:

Duke C. Ormsby.....General Superintendent of Transportation
Geo. W. Evington, Sr.....Superintendent of Transportation

Harry E. Cooley.....Assistant Superintendent of Transportation
Thos. A. Cox.....Division Superintendent
Geo. S. Lewis.....Division Superintendent
Lawrence G. Marshall.....Division Superintendent
Wesley R. Mason.....Division Superintendent
James E. McDevitt.....Division Superintendent
Albert J. Schirmer.....Division Superintendent
Ralph Strawn .....Division Superintendent
Earl Ryan .....Head Clerk, Transportation
Hobart G. Wilson.....Senior Inspector
Renzy G. Hayton.....Instructor
W. J. McDevitt.....Instructor
Richard H. Furth.....Instructor
Wm. D. Ratto.....Instructor

Schedules:

Joseph D. Brogan.....General Superintendent of Schedules
John J. Barry.....Superintendent of Schedules
John Casey .....Assistant Superintendent of Schedules
Earle A. Rambo.....Chief Schedule Draftsman

Accounting:

Geo. S. Warren.....Assistant Director of Accounts
Geo. C. Quinn.....Senior Accountant
Melvin F. Kraut.....Accountant
Joseph P. Crosson.....Accountant
Dorothy E. Johnson.....Cashier
Paul W. Frasher.....Head Clerk, Revenues
Merlin L. Henry.....Head Clerk, Timekeeping
Remo M. DeLuca.....Senior Clerk, Timekeeping
John J. Lyons.....Chief Clerk, Stores and Purchasing
Earl B. Southard.....Senior Clerk, Stores and Purchasing
Raymond H. Farrell.....Statistical Clerk

Personnel and Safety:

Paul J. Fanning.....Director, Bureau of Personnel and Safety

Claims:

Donald Mazzoni.....General Claims Agent
Alfred P. Felder.....Chief Clerk, Claims Bureau
Peter F. Beasley.....Senior Claims Investigator
Maurice P. Murphy.....Senior Claims Investigator

Equipment and Power:

Wm. C. Bendel.....General Superintendent of Equipment and Power
Chas. D. Miller.....Superintendent of Equipment
Frederick E. Cook.....Superintendent of Motive Power
Victor C. Peterson.....Superintendent of Garage
Frank J. Doyle.....Superintendent of Cable Machinery
David P. Whelan.....General Foreman, Overhead Lines
James M. Leslie.....Senior Clerk, Shops-Equipment

Track and Roadway:

Frank J. Sheehan.....General Supt. Maintenance of Way Engineering
John H. Ryan.....Assistant Supt. Maintenance of Way
Wm. B. Bushnell.....Civil Engineer
Ernest Von Husen.....Assistant Engineer
Dennis J. Kennealy.....Senior Clerk, Track and Roadway

Auditing and Accounting:

The accounts of the Municipal Railway are maintained in accordance with the forms and requirements of the California State Public Utilities Commission insofar as these are applicable to publicly owned and operated utilities and also in accordance with Section 64 of the Charter of the City and County of San Francisco.

The centralized control system installed by the Controller has been merged with these accounts with the result that no obligation may be incurred without prior certification of the Controller that funds are available to discharge said obligation when it becomes due.

The cash balances of the Municipal Railway funds were verified in the Treasurer's office as of June 30, 1947, and with the exception of settlements for injuries and damages provision has been made for all ascertained liabilities outstanding as of June 30, 1947.

The accounts and activities of the Municipal Railway are audited currently by the Municipal Railway auditing staff, and frequent audits on various phases of the railway operations are made by the Controller's office forces. As provided in ordinance 9.0621, an annual audit of the department is made as of June 30, by a firm of certified public accountants. The accountant's report not having been completed at the time of compilation of this department's report, there may be minor differences between the two reports on account of reclassifications and adjustments made by the accountants.

The burden of work encountered by the accounting forces of the railway during the year continued extremely heavy, the problems attendant upon the consolidation being a factor.

The large volume of purchases of materials and supplies needed to fill depleted stocks, the heavy issuance of stores in connection with maintenance and rehabilitation work, and the great volume of accounting work pertaining to financial and operating matters were also factors in the difficulties encountered. The increasing availability of more experienced clerical help greatly aided in the accomplishment of the required accounting work.

Toward the close of the year an installation of modern tabulating machine equipment, operated by a force of twelve employees and headed by an accounting supervisor, was placed in operation on stores accounting, personnel records, and budget statistics.

All purchases and disbursements of stores are recorded by this equipment. Each of approximately 15,000 stock items of stores, the total value of which is in excess of $800,000, has been given a code number which designates the part number, object of expenditure number, and storage warehouse location. A perpetual inventory is maintained on tabulating cards which can be speedily listed at any particular interval giving current inventories and values. Activity reports showing volume of movement on all items are also readily available.

NERVE CENTER

Municipal Railway's radio tower atop Twin Peaks for exchange of messages between Central Control and men in the field.

Personnel records maintained include the recording of pertinent data concerning approximately 4,100 employees. The availability of current platform seniority lists has been especially beneficial.

A great volume of statistical information is compiled currently for use in connection with the preparation of the annual budget.

Future application of this tabulating equipment is contemplated on time-roll preparation, revenue, and other statistics.

Maintenance of Track and Roadway:

Owing to the over age and bad state of repair of the acquired Market Street Railway Company trackage, the track maintenance forces had a heavy task keeping the track and roadway in operating condition. The continued scarcity of needed materials and the relieved, though still insufficient, supply of skilled and semi-skilled labor added further to the difficulties of track maintenance.

Three major jobs of track construction and reconstruction were performed during the year by private contractors. These were reconstruction of the inner tracks on Market Street from Fremont Street to Eddy Street, construction of a track connection from Potrero Avenue to Bayshore Boulevard, including related track reconstruction, and replacement of the inner tracks on Church Street between Market and Seventeenth Streets and from Twenty-fifth to Twenty-seventh Streets. This latter job included removal and repaving over of the outer tracks on Church Street between Market and Sixteenth Streets.

With the exception of the above, track reconstruction was confined to urgent minor jobs essential to the operation of the railway.

Expenditures for track and paving repairs under maintenance for the year totaled $797,609, which total included cost of removals of abandoned track at miscellaneous locations. The amount expended for replacements of crossings, special work, tracks, paving, and minor new construction totaled $468,015, which costs included amounts expended on the Market Street inner tracks, Church Street tracks, and the Potrero Avenue to Bayshore Boulevard connection. The total amount expended for track work during the year was $1,265,624.

Under maintenance and minor replacements during the year, 9,463 lineal feet of track was reconstructed, and 120,375 square feet of concrete paving base seven inches deep was placed. Asphalt paving renewed totaled 776,582 square feet, and 243,239 linear feet of paving along rails was placed at a total cost of $135,510.

In the thermit welding process of repairing broken rails, welds totaling 1,153 were made under general maintenance.

Track repairs were made at 636 locations.

The above figures do not include the work performed on the following jobs:

Contract No. 253; Replacement Job No. 1646M; Market Street Fremont to Eddy, Contracts No. 242 and No. 248; Replacement Job No. 1607, Church Street, Market to Seventeenth, and Twenty-fifth to Twenty-seventh, and Contract No. 222, E & B Job No. 283, Potrero-Bayshore connection.

Quantities of work performed on these three jobs were as follows:

Asphalt paving on concrete base	150,948 sq. ft.
Asphalt conform paving	95,855 sq. ft.
Single track reconstruction	13,610 lin. ft.
Thermit welds made	419

CENTRAL CONTROL
Chief Inspector H. G. Wilson at desk and control room behind soundproof partition.

A complete summary of all replacement, construction, extension and betterment, and maintenance jobs performed during the year is given in the following pages of this report.

Maintenance Jobs:

Various small maintenance jobs were performed during the year, and the cost of same charged to operations. A considerable number of these jobs concerned the removal of abandoned track and facilities. A statement of jobs performed follows:

STATEMENT OF EXPENDITURES FOR MAINTENANCE JOBS

Amount expended 1944-1945—Maintenance Jobs in Progress July 1, 1946	$443.63
Amount expended 1945-1946—Maintenance Jobs in Progress July 1, 1946	949.38
Amount expended 1946-1947—Maintenance Jobs	40,659.87
Total	$42,052.88

The various jobs and items making up this total are listed below:

Maintenance Job No.	Description	Expenditure
36	Constructing and installing frog diamond crossover in Mission terminus at Ferry	$641.24
44	Fabricating and installing parts of crossover Sutro Depot	1,707.86
51	Repairing existing light fixtures and installing new light fixtures at 24th and Utah Sts. garage office	772.93
52	Building partitions and installing overhead convenience outlets at 1663 Mission St., Public Utilities Drafting room	483.52
53	Installing electric lights and heating in the Municipal Railway Instruction quarters at 2609-2611 - 24th St.	726.08
57	Labor and material for installation of portable crossovers including overhead construction on 16th St., east of Church St., and on Church St. between 17th and 18th Sts.	1,348.39
61	Labor and material for maintenance repairs to overhead wiring in various sections of the Municipal Railway properties for period July 1 to December 31, 1946	2,588.36
62	Removing rail and restoring pavement on Bush St. between Kearny and Sansome Streets	10,035.93
63	Replacing double track railway crossings and some adjoining rails at Sutter and Kearny Sts.	733.73
66	Removing overhead, poles and feeders on Third St. from Channel St. south to Mariposa; east on Mariposa to Illinois St., south on Illinois St. to 19th St.	1,472.08
69	Labor and material for replacing flue on steam cleaning plant at 24th St. garage	210.66
70	Labor, material and equipment necessary for repairing roof of Line Department buildings of the Municipal Railway.	1,672.00
71	Labor, material and equipment necessary for repairing roof of Elkton Shops of the Municipal Railway	2,510.00
73	Repairing Garage Roof at Turk and Webster Sts.	1,904.00
74	Removing Feeder Cable on Turk St. from Fillmore to Larkin St., on Larkin St. from Turk to O'Farrell St. and on Polk St. from Post to North Point St.	335.50
76	Dismantling retired street cars and motor coaches for period January 1, 1947 to June 30, 1947	79.57
77	Removing two mate castings for turnout—Monterey Boulevard between Congo and Edna Sts.	106.15
78	Removing switch, mate and frog, and connecting rails in northbound track on Fillmore St., north side of O'Farrell Street	300.00
79	Removing rails from approximately 55 feet of south track on Broadway, west of railway crossing on Stockton St..	1,124.62
80	Removing switch casting and 12 feet of connecting guard rail from north end of crossover—Polk St., between Jackson St. and Pacific Avenue	119.44
81	Removing 622 feet of rail in tracks on Army Street between San Bruno and Vermont St.	1,044.63

Maintenance Job No.	Description	Expenditure
82	Removing switch casting and 8 ft. guard rail from northbound Folsom St. track at branchoff into south side of 24th St.	75.00
83	Removing mate casting from westbound 26th St. track at branchoff into Van Ness Avenue South	70.00
84	Removing switch casting from crossover south track Folsom St., west side of 2nd St.	70.00
85	Removing switch casting and 11 ft. guard rail from south track 26th St., east side of Van Ness Avenue South	74.00
86	Removing mate from crossover west track Larkin St. between McAllister St. and Golden Gate Avenue	65.00
87	Removing poles on Wawona St. between 19th and 20th Avenues and on 20th Avenue between Wawona and Irving Sts.	30.50
88	Removing frog "DJ" in branchoff southbound track on 3rd St., south side of Townsend	113.19
89	Removing overhead trolley wire and spans—Embarcadero from Ferry to Jackson St., on Jackson and Washington Sts. from Embarcadero to Columbus Ave., Columbus Ave. from Washington to Green St. and Union St. from Columbus Ave. to Powell St.	102.00
90	Removing approximately 350 ft. of double track and repaving on 18th St. easterly from approximately west line of Danvers St.	2,078.40
91	Removing steel poles on Embarcadero from Market to Jackson Streets, on Jackson Street from Embarcadero to Columbus Ave. and on Washington St. from Embarcadero to Sansome St.	801.33
92	Removing street trolley poles on Broadway from Montgomery St. to Embarcadero and on Embarcadero from Broadway to Jackson St.	536.81
93	Rearranging overhead plant, poles, spans and signals on west side of Presidio Avenue from Post to Bush Sts.	822.29
94	Removing double track cable-electric crossing at Kearny and California Sts. and replacing by 7″ rails in the California St. tracks	1,524.34
95	Removing overhead trolley wire only, leaving spans in place on Union St. from Columbus to Larkin St., on Larkin St. from Union to Vallejo Sts., and on Vallejo St. from Larkin St. to Van Ness Ave.	335.50
96	Removing overhead trolley wires and spans on Larkin St. from Grove to Post Sts., on Post St. from Larkin to Polk Sts. and on Polk St. from Post to North Point Sts.	899.73
98	Removing of mate casting in south end of left hand crossover on Third St. at Berry St.	73.51
99	Rearranging overhead plant, poles, spans and feeders on south side of California St. between Spruce and Laurel Streets	790.02
102	Removing switch and mate castings from Ellis St. track west side of Fillmore St.	441.31

Maintenance Job No.	Description	Expenditure
103	Removing approximately 850 feet of single track from the westerly track on Third St. viaduct from Mariposa St. north	1,878.10
104	Removing trolley wire and spans on Union St. from Steiner to Baker Sts. and on Baker St. from Union to Greenwich Sts., including curves	320.25
106	Removing approximately 69 feet of double track on Polk St. across Union St. and placing concrete paving	376.17
107	Removing crossover on Folsom St. between 6th and 7th Sts.	546.93
109	Removing rails in curved track on Bayshore Blvd. at Macdonald Avenue	111.81
	Total	$42,052.88

New Construction and Additions:

Ten forty-four passenger motor coaches were purchased from the railway operating fund at a cost of $152,195.06. In addition to this, thirty new forty-four passenger motor coaches were purchased from the reconstruction and replacement fund. Sixteen forty passenger trolley coaches were purchased and put in service on the "E" line upon the conversion of that line from electric car to trolley coach operation. At the close of the year, ten street cars, thirty motor coaches, and twenty-four trolley coaches were on order. The trolley coaches are for use in connection with the proposed conversion of the "number five" line to trolley coach operation.

Under extension and betterment job No. 272, the purchase and installation of a radio telephonic system was completed at a total cost of $23,881.34.

Under extension and betterment job No. 275, additional offices, including a new central money-room, were constructed in the Geary Street car house, helping to relieve the existing overcrowded conditions.

Under extension and betterment job No. 280, new construction of overhead poles and facilities in connection with the "E" line conversion to trolley coach operation was performed at an incomplete cost to date of $327,496.67.

Under extension and betterment job No. 283, the tracks on Potrero Avenue were extended to Bayshore Boulevard, thus connecting the tracks of the "H" and "number twenty-five" lines at a total cost of $28,693.86.

Under extension and betterment job No. 286, land was purchased to be used as the site of a new motor coach garage.

Twelve automobiles were purchased mainly for use of inspectors in connection with traffic supervision and the operation of the radio telephonic system.

The total expenditures for new construction and equipment during the year were $679,441.69.

Land purchases totaled $183,607, making a total of $863,048.69 expended for plant additions during the year. A complete statement follows:

STATEMENT OF EXPENDITURES FROM OPERATING FUND OR CONTRIBUTED FOR ADDITIONS, BETTERMENTS AND NEW CONSTRUCTION

Amount expended 1939-1940—Extension and Betterment, and Construction Jobs in Progress July 1, 1946	$369.28
Amount expended 1942-1943—Extension and Betterment, and Construction Jobs in Progress July 1, 1946	2,989.01
Amount expended 1943-1944—Extension and Betterment, and Construction Jobs in Progress July 1, 1946	1,070.36
Amount expended 1944-1945—Extension and Betterment, and Construction Jobs in Progress July 1, 1946	4,531.12
Amount expended 1945-1946—Extension and Betterment, and Construction Jobs in Progress July 1, 1946	78,434.91
Amount expended 1946-1947—Extension and Betterment, and Construction Jobs, and Direct Charges to Road and Equipment	679,441.69
Amount expended 1946-1947—Land Purchases. (Extension and Betterment Job No. 286)	183,400.00
Amount expended 1946-1947—Additional cost—previous year's land purchase	207.00
Amount contributed	0
Total	$950,443.37

The various jobs and items making up this total are listed below:

Construction Job No.	Description	Expenditure
172	Additional equipment for conversion of 10 hand-operated fare boxes to electric operation. Incomplete cost to June 30, 1947	$467.45
173	250 Fire Extinguishers and labor and material for 250 glass front boxes for same. For use on motor coaches. Total cost	1,727.23
174	30 electric drives with pulleys and installation cost to convert 30 manually-operated boxes to electrically-operated boxes. Incomplete cost to June 30, 1947	60.90
175	Labor and material for construction of one frame waiting station, Alemany Boulevard at Trumbull. Total cost	110.96
176	Laying pipe at Funston Ave. yard. Total cost	335.27
177	Construction of one frame waiting station on Southwest corner of San Bruno and Silver Avenues. Total cost	300.55
178	Labor and material for the installation of twelve street lamps in the Mariposa and Bryant St. yards. Total cost	554.03
179	Construction of waiting station on right of way at Dufferin Ave., Burlingame. Total cost	503.81
180	Construction of macadam pavement to be used for parking of motor coaches at Mariposa Yard. Total cost	579.60

Construction Job No.	Description	Expenditure
185	Installation of 4 additional lights on the Sutro right of way. Incomplete cost to June 30, 1947	138.67
187	Installation of crossover on San Bruno Avenue between Bacon and Wayland Sts. Incomplete cost to June 30, 1947	967.47
Extension and Betterment Job No.		
237	Construction of motor coach garage including engineering. Incomplete cost to June 30, 1947	$563.20
251	Construction of overhead and other facilities for Union Street trolley coach line. Incomplete cost to June 30, 1947	4,453.95
260	Stockton St. extension—salaries, wages, labor, office and field engineering. Incomplete cost to June 30, 1947	39,210.35
261	Balboa St. extension—office and field engineering for preparation of plans and specifications and field inspection. Incomplete cost to June 30, 1947	2,099.85
264	Crossover on Fourth St.—salaries, wages, labor, office and field engineering. Incomplete cost to June 30, 1947	238.80
265	Connecting curve—Fourth and Mission Sts.—salaries, wages, labor, office and field engineering. Incomplete cost to June 30, 1947	699.18
272	Purchase and installation of a radio station in the Central Control Tower and purchase and installation of radio equipment in motor vehicles and in the headquarters of the wrecking equipment crew. Total cost	23,881.34
273	Purchase and installation of headway recorder devices. Incomplete cost to June 30, 1947	9,373.99
275	Additions to Geary Street car house. Incomplete cost to June 30, 1947	92,587.71
279	Installing electric feeders and switchboards in Twenty-fourth and Utah Sts. garage. Total cost	3,717.40
280	New overhead wiring, poles and facilities in connection with "E" line conversion. Incomplete cost to June 30, 1947	327,496.67
281	Furnishing and installing ventilating fans for Twenty-fourth Street garage. Total cost	10,413.07
283	Extension of track on Potrero Avenue to Bayshore Boulevard, connecting "H" line and No. 25 line. Total cost	28,693.86
284	Purchase and installation of six hydraulic lifts at the 24th St. garage. Incomplete cost to June 30, 1947	134.38
285	Construction of single track, connected branchoff, inside curved track at southwest corner of Stockton St. and Broadway. Total cost	2,636.37
286	Purchase of Assessor's Block No. 19 (bounded by Beach, North Point, Stockton and Powell Sts.). Site for new bus garage. Total cost	183,400.00

Purchase of 10 44-passenger motor coaches	152,195.06
Adjustment on 16 motor coaches purchased in 1945-1946	*4,127.38*
Purchase of 2 motor coach engines	3,833.50
Purchase of 20 life guard fenders for electric cars	1,025.00
Purchase of 12 automobiles	13,360.19
Purchase of trolley coach electrical equipment	1,688.53
Purchase of miscellaneous track and roadway equipment	2,405.52
Purchase of miscellaneous shop equipment	978.46
Purchase of miscellaneous garage shop equipment	2,539.24
Purchase of miscellaneous trolley coach shop equipment	88.40
Purchase of miscellaneous furniture and office equipment	17,235.28
Construction of new Poetsch waiting station on San Mateo right of way	136.65
Purchase of metal tokens	23,531.86
Additional cost—Previous year's land purchase	207.00
Total	$950,443.37

Italic figures denote loss and deficiency.

Reconstruction and Replacements:

Replacements of track and roadway, housing facilities, and equipment were made to the extent of available replacement funds, labor, and materials. The amount expended of $963,953.40 exceeded like expenditures in the previous year by $340,021.90.

The principal replacement jobs performed during the year were as follows:

Under replacement job No. 1482, replacements to recondition the "M" line were completed at a total cost of $14,996.01.

Under replacement job No. 1520, "E" line conversion to trolley coach operation, the incomplete cost to June 30, 1947, totaled $56,803.57. See extension and betterment jobs No. 251 and No. 280 for additional costs in the amount of $331,950.62 in connection with this conversion.

Under replacement job No. 1566M, the old office building at Turk and Webster Streets was replaced by a new office building, the Geneva Avenue office building was remodeled, and other miscellaneous replacements were made in railway buildings. The incomplete cost to June 30, 1947, was $71,494.09.

Under replacement jobs Nos. 1569, 1595, and 1596, thirty old motor coaches were replaced by thirty new forty-four passenger motor coaches at a total cost of $390,724.87.

Under replacement job No. 1607, the tracks on Church Street from Market to Seventeenth Street and from Twenty-fifth to Twenty-seventh Street were reconstructed at a total cost of $156,721.99.

Under replacement job No. 1646M, the inner tracks on Market Street from Fremont to Eddy Street were reconstructed at an incomplete cost to June 30, 1947, of $195,521.66.

KEEPING 'EM SPACED
Headway recorders in control room for minimizing the bunching of cars.

TALKING TO THE FIELD
KCRJ at Central Control gives instructions to roving railway inspectors.

Under replacement job No. 1666M, various facilities at the Twenty-fourth and Utah Streets garage were replaced at an incomplete cost to June 30, 1947, of $43,650.

Under various replacement jobs, nine old automotive service trucks were replaced by nine new auto trucks at a total cost of $28,462.93.

The total amount expended during the year amounted to $963,953.40.

A complete statement of all replacement jobs performed during the year plus jobs in progress at the beginning of the year follows:

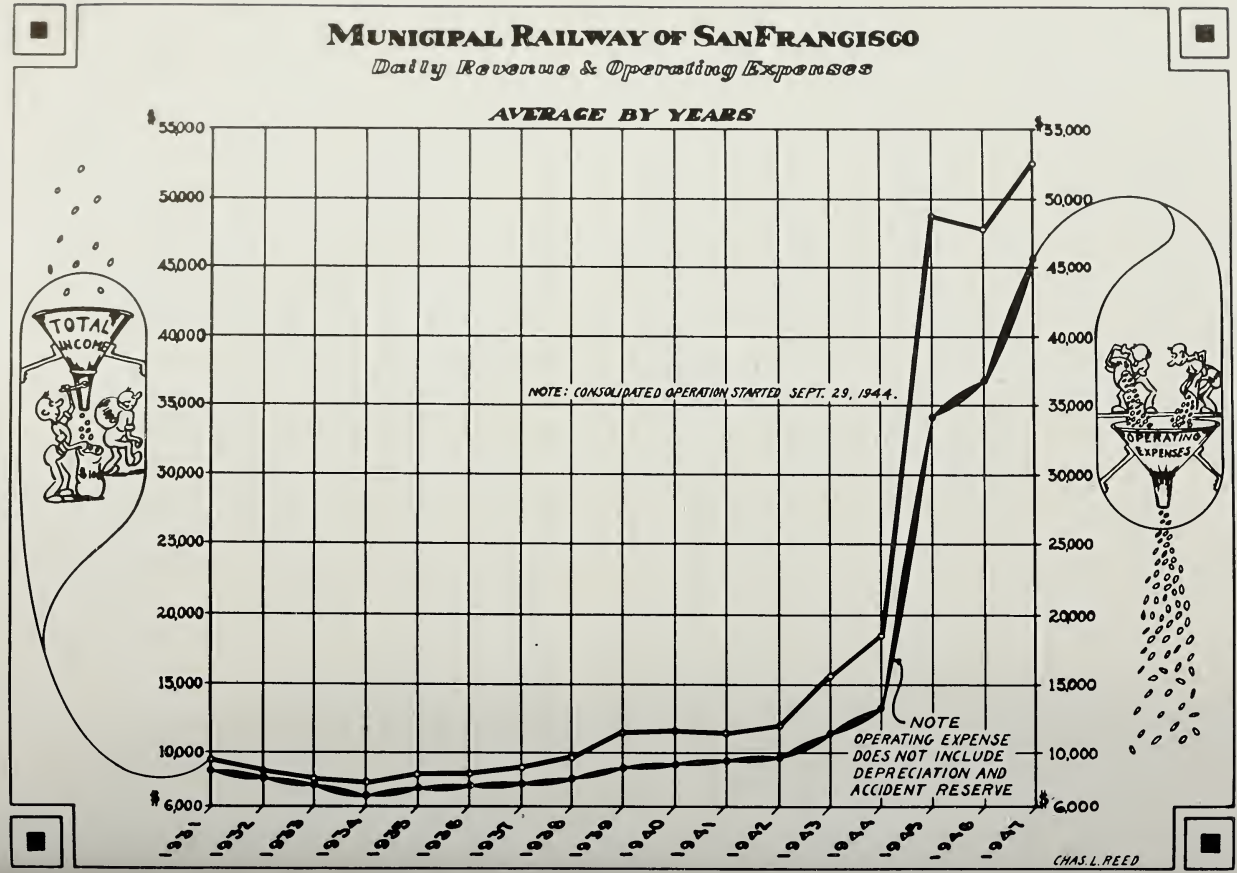
STATEMENT OF EXPENDITURES FOR RECONSTRUCTION AND REPLACEMENTS

Amount expended 1942-1943 (Replacement Jobs in Progress July 1, 1946)	$1,522.80
Amount expended 1944-1945 (Replacement Jobs in Progress July 1, 1946)	13,765.08
Amount expended 1945-1946 (Replacement Jobs in Progress July 1, 1946)	117,672.20
Amount expended 1946-1947 (Reconstruction and Replacement Fund—Exhibit "C")	963,953.40
Turn-in value received on Replacement Jobs 1946-1947	3,965.00
Amount contributed on Replacement Jobs 1946-1947 (R.J. 1607)	13,123.00
Amount expended 1946-1947—Operating Fund	0
Total	$1,114,001.48

The various jobs making up this total are listed below:

R. J. No.	Description		Expenditures
1482	Replacements to recondition "M" line. Total cost		$14,996.01
1512	Replacement of railroad crossing single track over double track cable railway at Columbus Avenue and Mason St., also 30 feet of rail in Municipal Railway track adjoining crossing at north end. Incomplete cost to June 30, 1947		7,491.28
1520	Conversion of "E" line from street car to trolley coach operation. Incomplete cost to June 30, 1947		56,803.57
1544M	Replacement of 20 inoperable motor coaches acquired from the Market Street Railway Company. Total cost	$248,623.00	
	Less transferred to Road and Equipment 1945-1946	248,583.00	
	Amount transferred to Road and Equipment 1946-1947		40.00
1545M	Replacement of 10 529" engines for General Motor Coaches. Total cost	$8,860.11	
	Less transferred to Road and Equipment 1945-1946	8,820.09	
	Amount transferred to Road and Equipment 1946-1947		40.02

R. J. No.	Description		Expenditures
1560	Engineering studies and plans in connection with reconstruction and replacements of Municipal Railway properties. Total cost		19,935.21
1562M	Replacement of 84 feet of guard rail and 122 feet of outside rail in outbound track—Geary Boulevard and Forty-eighth Avenue. Total cost		1,508.66
1563M	Replacement of motor coach fuel dispensing equipment at Twenty-fourth and Utah garage. Incomplete cost to June 30, 1947		2,780.52
1565M	Replacement of refuse burner at Geneva Shops. Total cost		6,652.21
1566M	Reconstruction and replacement of railway office buildings.		
	Amount transferred to Road and Equipment in 1946-1947	$71,130.39	
	Amount in progress June 30, 1947	363.70	
	Incomplete cost to June 30, 1947		71,494.09
1569	Replacement of 5 motor coaches. Total cost		65,120.81
1570M	Survey to establish line and grade for reconstruction of tracks on Mission Street between Eleventh and Thirteenth Streets. Total cost		328.80
1575M	Reconstruction of Mission Street tracks between Otis and Thirteenth Sts. Total cost	$42,766.49	
	Less transferred to Road and Equipment 1945-1946	41,800.61	
	Amount transferred to Road and Equipment 1946-1947		965.88
1577M	Replacement of one coin counting machine. Incomplete cost to June 30, 1947		507.31
1578M	Replacement of 16 typewriters. Total cost		2,003.39
1580M	Replacement of 9 wood poles in San Mateo county. Total cost		483.84
1582M	Replacing 3 frogs in railway crossings of inbound Sutter Street tracks over inner tracks on Market Street. Also, 1 frog in branchoff inbound Sutter Street track into inbound outer track on Market Street. Total cost		2,096.24
1584	Replacement of two Fageol trucks. Total cost		$10,312.62
1589	Replacing X double track railway crossing at Eleventh and Bryant Streets. Total cost		7,488.41
1590	Replacing coin plates, segment gears and locking cams in 329 fare boxes. Incomplete cost to June 30, 1947		6,236.28
1591M	Replacing coin plates, segment gears and locking cams in 530 fare boxes. Incomplete cost to June 30, 1947		10,094.53
1592	Replacement of steam heating boiler and burner at Seventeenth Street car house. Total cost	$1,050.76	
	Less transferred to Road and Equipment 1945-1946	1,046.45	
	Amount transferred to Road and Equipment 1946-1947		4.31


MUNICIPAL RAILWAY OF SAN FRANCISCO
Daily Revenue & Operating Expenses
AVERAGE BY YEARS
$55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
$6,000
TOTAL INCOME
OPERATING EXPENSES
NOTE: CONSOLIDATED OPERATION STARTED SEPT. 29, 1944.
NOTE
OPERATING EXPENSE DOES NOT INCLUDE DEPRECIATION AND ACCIDENT RESERVE
'31 '32 '33 '34 '35 '36 '37 '38 '39 '40 '41 '42 '43 '44 '45 '46 '47
CHAS. L. REED

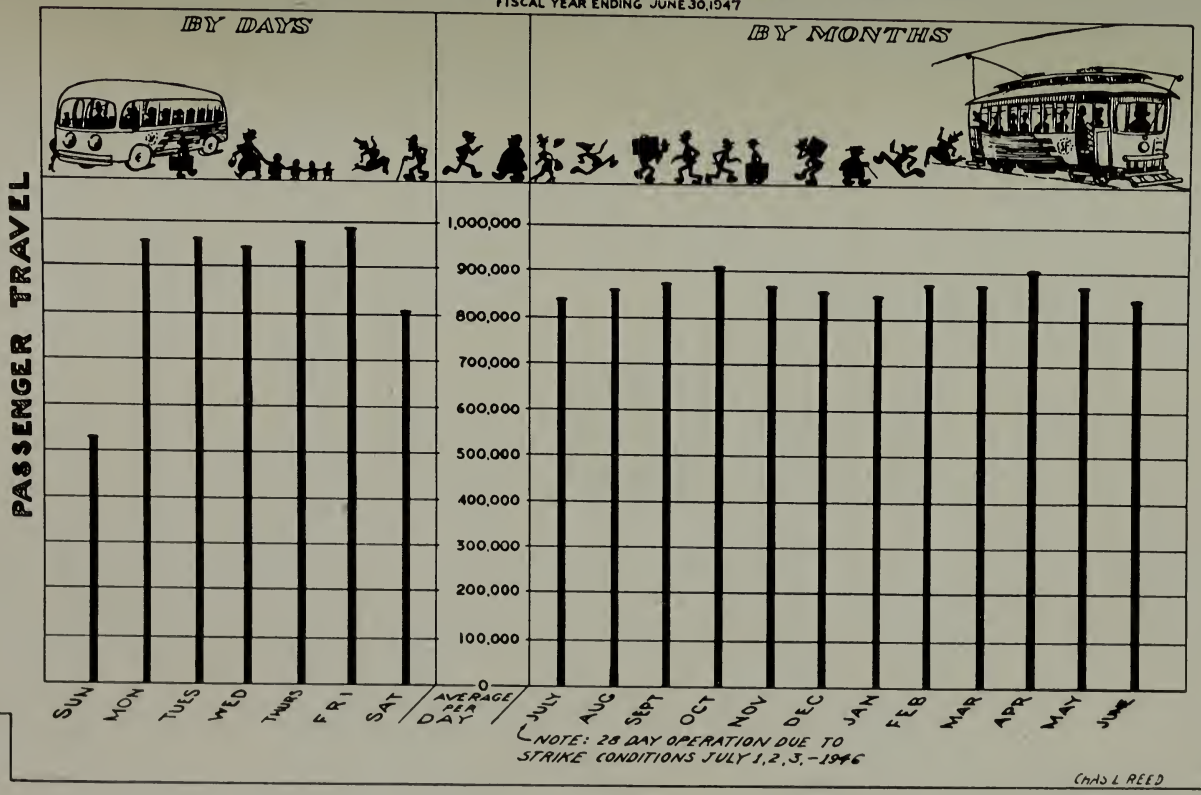
R. J. No.	Description	Expenditures
1595M	Replacement of 24 Motor Coaches acquired from Market Street Railway Company. Total cost	312,579.90
1596	Replacement of 1 Motor Coach. Total cost	13,024.16
1598M	Replacing single by double track railway crossing and 5 connecting wing rails at Fillmore and Eddy Streets. Total cost	2,190.77
1607	Reconstruction of tracks on Church Street from Twenty-fifth to Twenty-seventh Street and from Market Street to Seventeenth Street including single track connected branchoff northwest Twenty-fourth and Church Streets. Total cost	156,721.99
1608	Replacement of switch mate and connecting rails in branchoff from northbound Fillmore Street track to north door of Turk Street car house. Total cost	1,272.52
1612	Removal of double over double track railway crossing at Geary and Larkin Streets and substituting 110 lb. girder rails in the Geary Street tracks at that location. Total cost	1,606.41
1615M	Removal of single track connected branchoff at Ellis and Fillmore Streets. Total cost	1,609.90
1621M	Replacing rails and ties in the outer curved track at Parnassus and Stanyan Street. Total cost	2,263.88
1624M	Replacing 100 feet of rail in inbound track at McAllister and Steiner Streets. Total cost	742.67
1627M	Replacement of 3 trucks. Incomplete cost to June 30, 1947.	3,303.27
1628M	Replacement of paving in connection with sewer reconstruction on Sutter Street from Baker Street to Presidio Avenue. Total cost	1,863.20
1629M	Replacing railway crossing and substituting straight tracks at Divisadero and Hayes Streets. Total cost	869.69
1638	Removal of double over double track railway crossing at Geary and Divisadero Streets and substituting 110 lb. girder rails in Geary Street tracks. Total cost	1,307.98
1641M	Replace track frog in curved crossing southbound track, Fillmore Street, south side Turk Street, in branchoff from northbound track into car house. Total cost	400.92
1642	Engineering studies and plans in connection with reconstruction and replacement of Municipal Railway properties. Incomplete cost to June 30, 1947	9,703.03
1646M	Replacement of inner tracks on Market Street from Fremont Street to Eddy Street. Incomplete cost to June 30, 1947	195,521.66
1647	Replacement of 1 adding machine. Total cost	272.76
1648	Replacement of 1 mimeograph duplicator. Total cost	570.93
1652	Replacement of 4 paving breakers. Total cost	1,013.52
1653	Replacement of 1 air compressor. Total cost	2,788.00
1654	Replacement of 1 truck. Total cost	1,416.09

R. J. No.	Description		Expenditures
1655	Replacement of two trucks.		
	Amount transferred to Road and Equipment 1946-1947	$1,246.40	
	Amount in Progress June 30, 1947	1,136.40	
	Incomplete cost to June 30, 1947		2,382.80
1658	Replacement of 1 Remington Rand, 6 Corona, 2 R.C. Allen, 1 Allen-Wales adding machines. Total cost		2,352.38
1659M	Replacement of 2 calculating machines. Total cost		1,383.75
1660M	Replacement of 2 adding machines. Total cost		545.53
1662M	Replacement of 1 dump truck. Total cost		11,048.15
1665	Removing crossover—Geary Street between Fillmore and Steiner Streets, and substituting rails for castings in straight tracks. Total cost		1,196.71
1666M	Reconstruction and replacement of shop, storeroom, office, washroom and gasoline dispensing facilities at 24th and Utah Streets garage. Incomplete cost to June 30, 1947		43,650.00
1668M	Removal of southerly railway crossing at Third and King Streets and substituting of girder rails in Southern Pacific tracks at that location. Total cost		631.81
1669M	Replacement of switch casting in outbound track, Mission Street at 22nd Street. Total cost		226.24
1670M	Replacement of 1 engineer's transit and 1 level. Total cost		861.00
1671M	Engineering studies and plans in connection with reconstruction and replacement of Market Street Railway Extension properties. Incomplete cost to June 30, 1947		14,021.23
1672	Engineering studies and plans in connection with reconstruction and replacement of Municipal Railway properties. Incomplete cost to June 30, 1947		8,389.88
1673	Replacement of steam heating boiler in Geary Street car house. Incomplete cost to June 30, 1947		1,324.84
1674M	Replacement of track castings with straight rails in tracks, Mission Street at Cortland Avenue. Total cost		2,046.76
1675M	Replacement of crossing with straight rails in tracks, 22nd Street at Guerrero Street. Total cost		907.88
1676M	Replacement of railway crossing, southbound track, Fillmore and O'Farrell Streets, and some adjoining wing rails. Total cost		617.85
1681M	Replacement of switch and adjoining rail in inner inbound track, Market Street at 2nd Street. Total cost		898.50
1682M	Replacement of track frog in curved crossing, southbound track, Fillmore Street, south side of Oak Street. Incomplete cost to June 30, 1947		579.06
1683M	Replacement of curve in outbound track, Sutro right of way north of depot terminal. Total cost		1,427.70
1684M	Replacement of 240 ft. of inbound track at easterly end of Sutro right of way. Total cost		1,410.79
1685M	Replacement of south half and northwest quarter of double track over double track railway crossing at Mission and 4th Streets. Incomplete cost to June 30, 1947		2,075.59

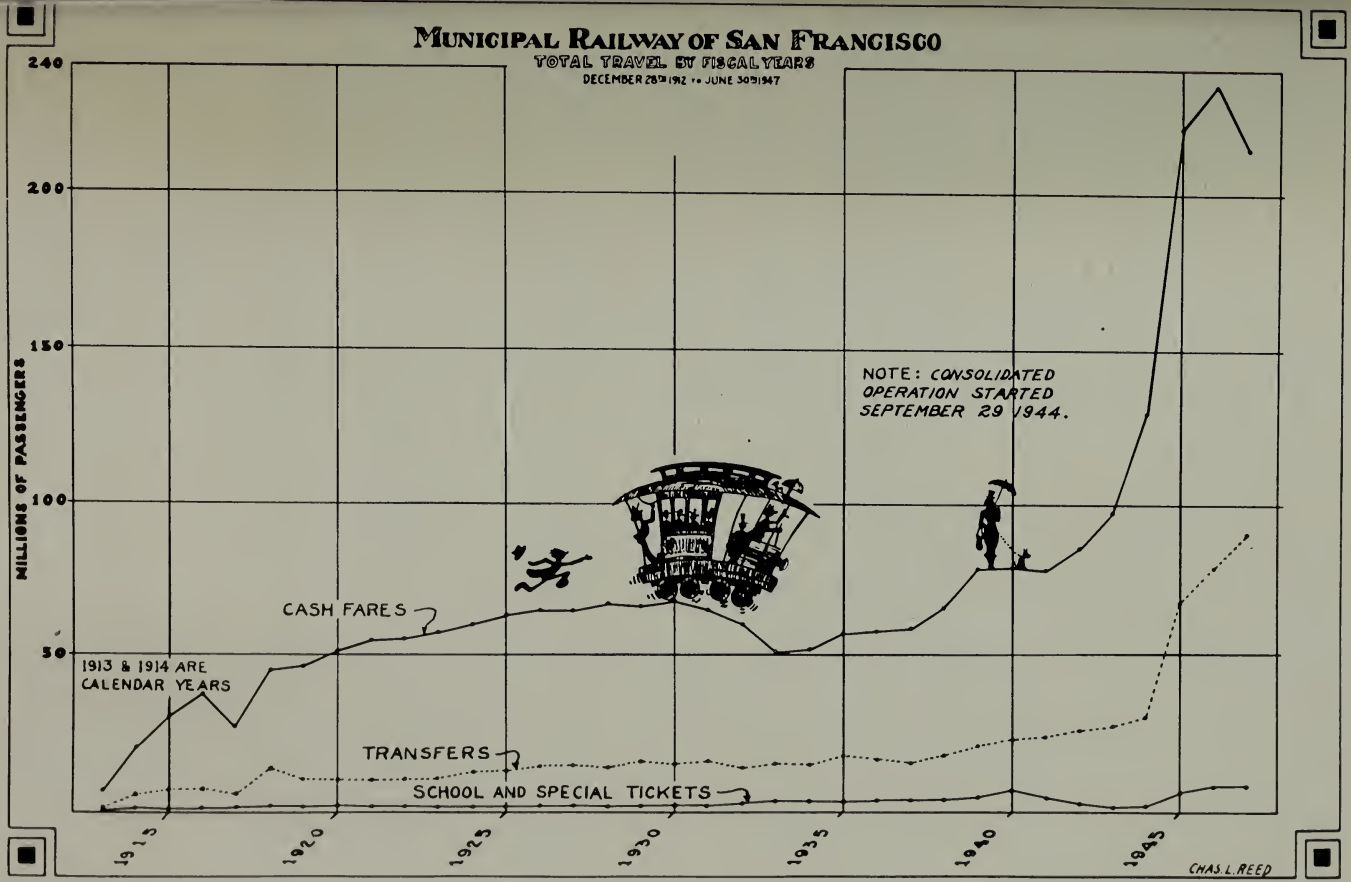
MUNICIPAL RAILWAY OF SAN FRANCISCO

Average Daily Travel

FISCAL YEAR ENDING JUNE 30, 1947



R. J. No.	Description	Expenditures
1694	Replacement of 600 feet of outer rail in inbound track in Twin Peaks tunnel between Engineer's Stations 104+00 and 110+00. Total cost	991.19
1701M	Replacement of mate casting, inbound inner track, Market Street, at branchoff into 8th Street. Total cost	697.22
1716M	Replacement of railway crossing, part of abandoned branchoff and connecting tracks with straight rails on Bryant Street at 24th Street. Incomplete cost to June 30, 1947	2,303.83
1718	Replacement of electrical distribution on Bay No. 4 of Geary Street Car House for hoist and machine tool motors on account of change from direct to alternating current. Incomplete cost to June 30, 1947	2,808.00
1722	Replacement of approximately 270 feet of inbound track on Kansas Street, between 16th and 17th Streets. Incomplete cost to June 30, 1947	2,896.50
1725M	Replacement of track castings, and rails in curved tracks, Clement Street at 33rd Avenue. Incomplete cost to June 30, 1947	222.79
1726M	Replacement of railway crossing with straight rails in Sutter Street tracks at Kearny Street. Incomplete cost to June 30, 1947	1,582.01
1727M	Replacement of 212 feet of rail, inbound track, inside rail, Sutter Street between Gough and Franklin Streets. Total cost	1,151.69
1728M	Replacement of rails in outside curve, Stanyan and Hayes Streets. (Stanyan Street end). Incomplete cost to June 30, 1947	1,004.53
1731M	Replacement of roof drains at the Elkton Shops. Incomplete cost to June 30, 1947	455.00
1732	Engineering inspection in connection with removal of crossings in outside tracks, Market Street at Third Street, replacing same with straight rail and raising outside tracks at this location. Incomplete cost to June 30, 1947	203.06
1734	Replacement of frogs No. 1 and 1A in railway crossing of outbound outer track on Market Street over outbound track on Haight Street. Incomplete cost to June 30, 1947	1,744.20
1740M	Replacement of track casting BN in branchoff Market and 5th Streets. Incomplete cost to June 30, 1947	341.68
1743M	Replacement of mate casting in inner, inbound track on Market Street at McAllister Street branchoff. Incomplete cost to June 30, 1947	642.99
1744	Replacement of 75 feet of rail in outbound curved track, Division Street at Potrero Ave. Incomplete cost to June 30, 1947	487.45
1746M	Removing crossover and replacing straight rails in tracks, San Bruno Avenue at Rickard Street. Incomplete cost to June 30, 1947	2.55
1748M	Replacement of 120 feet of cable track on Washington St., west side of and westerly from Franklin St. Incomplete cost to June 30, 1947	61.10
	Total	$1,114,001.48


MUNICIPAL RAILWAY OF SAN FRANCISCO
TOTAL TRAVEL BY FISCAL YEARS
DECEMBER 28TH 1912 TO JUNE 30TH 1947
MILLIONS OF PASSENGERS
240
200
150
100
50
NOTE: CONSOLIDATED OPERATION STARTED SEPTEMBER 29 1944.
CASH FARES
1913 & 1914 ARE CALENDAR YEARS
TRANSFERS
SCHOOL AND SPECIAL TICKETS
1915
1920
1925
1930
1935
1940
1945
CHAS. L. REED

Transportation Department:

During the year, as in the previous year, because of the merging of the acquired Market Street Railway Company's facilities with those of the original Municipal Railway system and because of continued adjustments of service and routings to the best possible advantage with the facilities at hand, the transportation department was confronted with a problem of major proportions. Entering into the difficulties encountered were the general deterioration and over-age condition of the former Market Street Railway Company's street cars. While the receipt of forty new forty-four passenger motor coaches and sixteen forty passenger trolley coaches helped considerably, the need for replacement of vehicles in major numbers was acute.

The availability of skilled mechanics for car and coach repairs and the supply of required repair parts and materials improved over the previous year, but not to the extent of demands.

Owing to the overcrowding of cars and coaches at peak periods, as a result of the still heavy demands for transportation, and also to the increased and extended service rendered, it was required that every available unit of passenger-carrying equipment be maintained in service to relieve the situation insofar as possible. In this connection, the transportation department was greatly aided by the cooperation of and special efforts put forth by the mechanical, maintenance of way, training, and supervisory forces of the railway.

Platform and coach operating personnel continued in excessive turn-over as evidenced by the total number of 1,280 trained during the year as compared with the number of 2,887 employed as of June 30, 1947.

While the transportation service rendered during the year did not adequately fulfill all requirements, a very noticeable improvement was accomplished over the early periods of consolidation.

A change in type of service rendered from street car to motor coach and trolley coach is noticeable from a review of the mileage operated during the year as compared with the previous year. Electric street cars decreased 1,583,498 miles or 7.96 per cent. Motor coaches increased 2,060,324 miles or 24.67 per cent. Trolley coaches increased 61,568 miles or 7.47 per cent. And cable cars increased 69,958 or 18.02 per cent. The system increase was 608,352 miles or 2.07 per cent.

Passenger-carrying equipment owned, including nineteen motor coaches leased, as of June 30, 1947, totaled 943 vehicles, consisting of 599 electric street cars, thirty-eight cable cars, thirty-four trolley coaches, and 272 motor coaches. Of these, six street cars, eleven cable cars, and thirteen motor coaches are classed as inoperable.

The schedule department during the year had a heavy task in the drafting of new schedules, compiling of traffic checks, and conducting of surveys for new routes and extensions. A listing of this work follows:

New schedules drawn	504
Traffic checks made	77
Observation checks made	142
Running time checks made	24
Surveys for new routes and extensions	51

Reroutings, revisions, consolidations, and extensions of car lines, motor and trolley coach routes made during the year are noted in the following statement.

CHANGES IN STREET CAR LINES AND MOTOR COACH ROUTES

NEW LINES AND ROUTES

DISCONTINUANCE OF LINES AND ROUTES

EXTENSIONS AND REROUTINGS

July 1, 1946, to June 30, 1947

Date	Line	Changes, Revisions, New Routings, etc.
7/ 1/46		No. 25—Street car line cut in two parts at 16th St. (sewer construction on Bryant St.) one line running south from 16th St., the other east from 9th St. Shuttle motor coach service between both terminals.
7/21/46		"C"—Operated to East Bay terminal all day.
7/21/46		"D"—Operated to Ferry all day.
7/28/46		No. 40—Rerouted on Mission St. between 28th St. and 14th St.
8/ 6/46		No. 25—Through service reestablished; shuttle service discontinued.
8/17/46		No. 74 M.C.—Discontinued.
8/18/46		"M"—Street car service until 7:00 p.m. Motor coach service after 7:00 p.m. operated from Broad St. to West Portal.
8/18/46		No. 11—Motor coaches replaced street cars nights and all day Sundays to 22nd and Mission Sts.
8/18/46		No. 21—Coach service nights and all day Sundays, inner terminal Hayes and Larkin Sts.
9/24/46		No. 33 T.C.—Operated out of Potrero division.
10/ 6/46		No. 2—Sunset Express service commenced with extension of route to Golden Gate Ave. and Taylor St.
10/ 6/46		No. 7 M.C.—Extended to Monterey and Forester.
10/ 6/46		No. 11 M.C.—Extended to Union and Montgomery.
10/ 6/46		No. 31—Street cars replaced by coaches nights and Sundays, coaches inner terminal at Market and Mason Sts.
10/ 7/46		No. 15 M.C.—Express service a.m. and p.m. peaks.
10/ 7/46		No. 3—Street car service until 7:00 p.m. week days and Saturdays. Motor coach service after 7:00 p.m. week days and Saturdays and all day Sundays from Presidio Ave. to Van Ness and Sutter St.
10/ 7/46		No. 16—Street cars replaced by coaches week days and Saturdays operating between North Beach and depot, morning and evening operates to 19th and Illinois Sts. No Sunday service.
10/23/46		No. 22—Through service reestablished after sewer job completed.
10/23/46		No. 25—Regular pull-out route reestablished.
11/ 8/46		No. 70 M.C.—"A" and "B" operated in a.m. period week days only. "C" operated to commercial center only week days, Saturdays and Sundays.
1/10/46		No. 72 M.C.—Discontinued.
1/11/46		"J"—Rerouted on Church St. Sewer job completed.
1/12/46		"K"—Alternate cars to Grafton during a.m. and p.m. peak only.
1/14/46		"71" M.C.—Extended to Brighton and Grafton Ave. week days and Saturdays.

Date	Line	Changes, Revisions, New Routings, etc.
11/17/46	No. 14 M.C.	—Extended to Geary and Masonic.
11/18/46	No. 5	—Street car service until 7:00 p.m. week days and Saturdays. Motor coach service after 7:00 p.m. week days and Saturdays, and all day Sundays from Balboa and La Playa to McAllister and Jones Streets.
12/ 5/46	No. 25	—Street car outer terminal changed to Army and Potrero.
12/ 5/46	No. 25	—Motor coach inner terminal changed to 4th and Mission—outer terminal to Wilde. Service nights and all day on Sundays and holidays.
12/ 5/46	"H"	—Extended to Wilde Ave. and San Bruno Ave. week days and Saturdays. Alternate cars to Army St. All cars to Army after 7:00 p.m. week days and Saturdays and all day Sundays.
12/ 5/46	"H"	—Owl service by motor coach.
12/ 9/46	No. 6	—Line moved to McAllister division.
12/ 9/46	No. 7	—Line moved to McAllister division; Haight division abandoned.
12/ 9/46	No. 8	—Line moved to McAllister division.
12/ 9/46	No. 4	—Line moved to Geary division.
12/ 9/46	No. 20	—Coach service extended to depot nights.
12/ 9/46	No. 21	—Line moved to Sutro division.
12/15/46	No. 1 M.C.	—Extended to Bayshore and Cortland.
12/15/46	No. 23 M.C.	—Rerouted to Alemany and San Bruno all day. (Service to Elk and Chenery discontinued.)
12/16/46	No. 71 M.C.	—Combined with route No. 7 and discontinued.
12/16/46	No. 9	—Ceased operating on Cortland Ave. Outer terminal changed to Richland and Leese.
12/16/46	No. 7	—Extended to Grafton and Brighton. Route 71 consolidated with route 7.
1/19/47	No. 2 M.C.	—Extended to Mason and Market Sts.
2/12/47	No. 31	—Inner terminal for street cars at Powell St. 9:00 a.m. to 4:00 p.m. week days only.
2/23/47	No. 7	—Outer terminal changed to 47th and Lincoln Way. Coach service to La Playa and Balboa.
2/23/47	No. 10 M.C.	—New route 47th and Lincoln Way to La Playa and Balboa.
2/23/47	No. 15 M.C.	—Wilde Ave. terminal changed to Arleta. Outbound coaches routed via Bayshore, Visitacion, Rutland, and Arleta.
2/23/47	No. 25 M.C.	—Outer terminal changed to Arleta.
2/24/47	No. 1	—45th to Sansome 9:00 a.m. to 4:00 p.m. week days only.
2/24/47	No. 2	—Sutro depot to Sansome 9:00 a.m. to 4:00 p.m. Week days only.
2/24/47	No. 3	—Presidio Ave. to Sansome St. 9:00 a.m. to 4:00 p.m. week days only.
2/24/47	No. 4	—6th and Fulton to Sansome St. 9:00 a.m. to 4:00 p.m. week days only.
3/10/47	No. 5	—Balboa and La Playa to McAllister and Jones Sts. from 9:00 a.m. to 4:00 p.m. week days only.
3/10/47	"D"	—Operated to Kearny 9:00 a.m. to 4:00 p.m. (week days only).

Date	Line	Changes, Revisions, New Routings, etc.
3/10/47		"E"—Street car service to Powell.
3/10/47		"E"—Motor car service to Ferry from Powell. Owl service by motor coach Lyon St. to Ferry.
3/10/47		No. 21—Inner terminal at Larkin 9:00 a.m. to 4:00 p.m. week days only.
3/17/47		"C"—Operated to Kearny Street 9:00 a.m. to 4:00 p.m. (week days only).
3/24/47		No. 17 M.C.—New route St. Francis Circle to Font Blvd. (Metropolitan Housing Project.)
4/17/47		No. 19—Route extension to 16th and Wisconsin. Week days only.
4/21/47		No. 29 M.C.—Route extended to Delta and Wilde.
4/21/47		"E"—Street car service to Presidio to Van Ness Ave. during a.m. and p.m. peaks on week days and on Saturday a.m. only.
4/21/47		"E"—Trolley coach service Beale and Howard Sts. to Powell and Union week days until 6:00 p.m., Saturday morning until 9:00 a.m. only.
4/21/47		"E"—Motor coach service Powell and Union to Van Ness during a.m. and p.m. peak week days and Saturday mornings until 9:00 a.m. Lyon St. to Powell and Union during off peak hours week days only. Lyon St. to Beale and Howard week day nights. Saturdays after 9:00 a.m. and all day Sundays.
4/26/47		No. 8—Saturday service discontinued.
4/26/47		No. 20—Coach service extended to depot Saturday afternoon.
5/ 6/47		No. 17 M.C.—Extended via Arvallo Drive and Garces Drive.
5/11/47		No. 26 M.C.—Outer terminal extended to Market and Mission in Colma.
5/11/47		"C"—Owl service by motor coach.
5/11/47		No. 14—Owl service by motor coach, Daly City to Ferry.
5/11/47		No. 22—Owl service by motor coach.
5/11/47		No. 7—Owl service by motor coach to Van Ness and Market.
5/21/47		No. 9—Extended to Murray and Richland Ave.
5/28/47		No. 23 M.C.—Extended to Industrial and Palou (Apparel Center).
6/ 5/47		No. 7 M.C.——Extended to Junipero Serra Blvd. and Worcester St.
6/ 9/47		"E"—Street car service discontinued. Trolley coach service Pierce and Union to Beale and Howard. Motor coach service Pierce to Lyon. Owl service by motor coach Lyon to Beale and Howard.
6/30/47		"M"—Line moved to Geary division.
6/30/47		"H"—Outer terminal at 3rd St. and San Bruno Ave. Alternate cars to Wayland St. All cars to Army St. after 7:30 p.m. on week days and Saturdays and all day Sundays.

Maintenance of Equipment:

During the year the equipment of the original Municipal Railway cars was maintained in excellent condition, and the equipment on cars purchased from the Market Street Railway Company was greatly improved.

The improvement on Market Street Railway Company equipment was accomplished by the receipt of materials that had previously been unobtainable and by a great improvement in the type of craftsmen now being employed at Elkton shops and at the various car houses.

The usual policy of cleaning cars daily and of disinfecting weekly was maintained throughout the year.

During the year all of the machine shop and carpenter shop tools at the Geary Street car house were removed and consolidated in the shops at Elkton.

For both the Municipal and Market Street Railway equipment, seventy-seven car bodies were overhauled and painted, sixty-four cars were rewheeled, 2,418 motors were repaired, 5,208 pieces of electrical apparatus and 176 truck units were overhauled. A total of 652 propulsion armatures and eighty-five air armatures were rewound for cars of both systems.

During the year sixty-two electric cars, fifteen cable cars, fifty-three buses, fifteen trolley coaches, seven auto trucks, five motorcycles, and two miscellaneous electric cars were repainted. 229 electric cars damaged in accidents were touched up and 200 electric car fronts were repainted. Twenty-two trolley coaches, 131 motor coaches, and 19 cable cars damaged in accidents were touched up.

At the Seventeenth Street car house the entrance hall and some of the offices were repainted.

Nineteen waiting stations over the system were repaired and repainted. The Forest Hill waiting station, the Douglas Street entrances to Twin Peaks tunnel, and all machinery at Elkton shops were repainted.

The brass foundry turned out 118,960 pounds of castings for the 23,571 castings that were made.

In the mill 84,938 feet of lumber was run, and the special machine shop made and repaired 10,689 track tools and cut and fabricated 629 pieces of rail for various special work.

The machine shop in addition to repairing and manufacturing a great number of parts for street cars, buses, and trolley coaches, made 142 new axles, 136 new armature shafts, and fitted on axles 1,026 car wheels.

The fare box department serviced and repaired 8,080 fare boxes, installed 598 new type coin mechanisms, and converted seventeen manual boxes to electric operation for twenty-four new trolley coaches.

The car building department repaired 1,153 street cars, fifty-six buses, eleven trolley coaches, and manufactured thousands of various parts for all types of rolling stock.

The fender repair shops repaired 5,163 fenders which was a considerable decrease over the previous year. Ten of the Municipal cars were equipped with a new type of Life Guard fenders.

Nine electric street cars were destroyed, and the various usable parts were salvaged for maintenance. Fifty-one inoperable electric street cars were sold at public sale, and five old motor coaches were turned in on new purchases.

The Haight Street car house was discontinued, and the trolley coaches at that location were transferred to the Seventeenth Street trolley coach division. The electric cars were transferred to the Sutro and McAllister car houses.

Sixteen new trolley coaches were received for the Union Street line and were assigned to the Seventeenth Street car house.

The installation of the heating system was completed at the paint shop, adding greatly to the efficiency of this department.

The roof at Elkton shops was repaired, and all car houses received a thorough cleaning by a special cleanup crew.

The yard at the Seventeenth Street car house was partially paved for buses and trolley coaches.

The railway is covered with fire insurance on the acquired Market Street Railway Company's street cars, miscellaneous buildings and plant and on all motor coaches, trolley coaches, and automobiles owned by railway. During the year billing was made to insurance carriers for fire damage as follows:

BILLINGS FOR FIRE DAMAGE

July 1, 1946, to June 30, 1947

Date of Fire	Equipment Damaged	Billing for Damage
8/ 7/46	Street car 851	$22.35
9/ 4/46	Motor coach 162	226.18
10/26/46	Trolley coach 501	246.62
11/28/46	Street car 946	97.03
12/25/46	Street car 962	26.16
3/ 1/47	Street car 946	295.68
4/ 1/47	Street car 293	117.07
6/ 9/47	Street car 255	40.89
6/ 6/47	Street car 940	248.88
	Total	$1,320.86

The above total as well as billings for fire damage for periods prior to June 30. 1946, in the amount of $4,872.58, or a total of $6,193.44, remained unpaid as of June 30, 1947, awaiting action by the insurance carriers.

Garage Maintenance:

The following is a general summary of activities at the Twenty-fourth Street motor coach garage from July 1, 1946, to June 30, 1947:

UNITS RECONDITIONED AND INSTALLED

During the year the following units were thoroughly reconditioned in the unit repair department at the Twenty-fourth Street garage and subsequently installed on motor coaches:

Air Compressors	262
Carburetors	581
Clutch assemblies	596
Cylinder head assemblies	249
Differential assemblies	105
Distributors	1,130
Engines, G. M. C.	74
Hall-Scott	6
White	39
Miscellaneous	9
By G. M. C. Company	7

Fuel Pump	362
Generators	328
Generator regulators	460
Miscellaneous air units (relays, regulators, governors, wipers and valves, divider valves, safety valves, etc.)	796
Miscellaneous door controls (interlock switches, control valves, engines, treadles, magnet valves, master switches, relays, speed controls, renewed sensitive edges, alarm bells, etc.)	655
Miscellaneous brake controls (slack adjusters, master valves, etc.)	751
Miscellaneous electrical units (stop light switches, ignition and wiring harness, starter solenoids, choke and shut off solenoids, horns, switches, buzzers, etc.)	532
Miscellaneous engine controls (slave and throttle master valves, governors, alarmastats and senders, governor throttle assemblies, etc.)	267
Starters	320
Steer gear assemblies	32
Steer knuckles	75
Transmission	223
Water pumps	174

Minor Repairs: Minor general repair jobs, unit installations and adjustments approximating 30,000 were performed as indicated on the garage daily work register. In this group work such as the following was completed:

Brake sets relined, including machining drums in most cases	596
Clutch reconditioned	438
Engines semi-overhauled	65
Valve sets reconditioned	201
Springs changed	235

Storage Batteries: Supplementing daily storage battery service, the following quantities were assembled with many components manufactured at the garage. Repair work consists generally of renewing cell connectors, posts, covers, straps, terminals or cables.

12 volt batteries	
Constructed	123
Rebuilt	37
Re-insulated	6
Repaired	243
Re-cased	14
Dismantled for salvage	229
6 volt batteries	
Constructed	23
Rebuilt	4
Re-insulated	28
Repaired	25
Re-cased	5
Dismantled for salvage	94
16 volt batteries	
Constructed	5
Re-insulated	4
Dismantled for salvage	7

Coach Service Activities: Service pit activity including regularly scheduled inspection and lubrication consisted of:

Nightly safety inspection	50,557
Daily minor inspection	1,946
Daily major inspection	1,953

Supplementing regular daily sweeping, glass cleaning, disinfecting, and scheduled upholstery renovating and chassis steam cleaning, the following number of units were washed:

Exterior body wash	14,821
Interior body wash	8,421

There were approximately 429 accidents wherein motor coaches were damaged. To assist in this type of repair or rehabilitation work, 25 units were "farmed out" to foreign shops for body reconstruction.

Garage Improvements: Major physical improvements to the garage incorporate:

1. Completion of an adequate ventilating system throughout the garage.
2. Construction of enlarged stores department, offices for stock control staff, offices for garage executives and affiliated work and improved tire repair and storage facilities. Receipt of additional steel bins now on order will provide for a complete and systematic arrangement of material. Inclusion of labor saving and safety devices such as electric hoists, material chutes, heat, light, and ventilation present a complete department for this function. Work is described in M. R. contract No. 237.
3. Construction of necessary and proper clothes locker room and wash room for workmen.
4. Additional illumination and benches with necessary equipment in certain work areas.
5. Installation of additional drinking water fountains.
6. Installation of unit heaters in unit repair department.
7. Procurement of additional miscellaneous tools and equipment for expediting general repair functions.
8. Work on M.R. contract No. 278 providing for 6 additional twin-post hydraulic coach lifts and concrete pavement on major floor area is being done. This contract also provides improved work pit facilities and bench illumination.

Although favorable consideration has been given and preliminary engineering work begun toward development of additional motor coach storage space, nothing of a tangible nature is presently available, and the parking problem becomes more acute daily. Contemplated also, on account of the urgent need, is the renewal of antiquated fuel dispensing equipment at the Twenty-fourth Street garage, in addition to further improvements in general overall illumination. Painting of garage interior is also desirable as funds permit, but is not considered urgent.

New Motor Coaches: In the group of forty new motor coaches received during the year were ten forty-four passenger seating capacity, model 44 D, twin coaches, which were placed in regular revenue service in May. These coaches are equipped with two high compression Fageol six cylinder engines of 404 cubic inch displacement, each developing 180 h.p. and driving a rear wheel separately

through a matched set of Spicer model 916 hydraulic torque converters. The integral aluminum alloy body and chassis is suspended by patented torsilastic rubber springs. The construction combined with high engine power results in the favorable power to weight ratio of approximately forty-four pounds per horsepower.

Cable Machinery Department:

The activities of the cable machinery department for the year ended June 30, 1947, are detailed as follows:

The operating time of the cable machinery department on week days is from 5:58 a.m. to 1:30 a.m., and on Sundays and holidays from 6:19 p.m. to 1:30 a.m.

At the conclusion of the day, night operators on duty clean motor contacts and magnets on switchboard, inspect cable winder gears and bolts, check motor gears and compound, help on maintenance and installation of cables. Transformers are cleaned and blown out once a month. Steam boiler tubes are cleaned on every cable installation. Day operators on duty check bearings, shaft temperatures, lubricate machinery, and keep records. Maintenance installation of new cable and removal of old is done after close of operation.

Removal and installation of cables during the year ended June 30, 1947, are as follows:

Mason Street Line—Removed old cable No. 975 on July 22, 1946. In service 94 days. Worn out. Installed new cable No. 981 on July 22, 1946.

Powell Street Line—Removed old cable No. 972 on August 13, 1946. In service 115 days. Worn out. Installed new cable No. 976 on August 13, 1946.

Powell Street Line—Removed old cable No. 976 on October 16, 1946. Stranded and badly damaged. In service 64 days. Installed new cable No. 980 on October 16, 1946.

Mason Street Line—Removed old cable No. 981 on October 23, 1946. In service 93 days. Worn out. Installed new cable No. 984 on October 23, 1946.

Jackson Street Line—Removed old cable No. 968 on December 7, 1946. In service 264 days. Installed new cable No. 973, on December 7, 1946.

Powell Street Line—Removed old cable No. 980 on December 24, 1946. Badly damaged. In service 69 days. Installed new cable No. 983 on December 24, 1946.

Mason Street Line—Removed old cable No. 984 on February 6, 1947. In service 105 days. Worn out. Installed new cable No. 987 on February 6, 1947.

Powell Street Line—Removed old cable No. 983 on March 7, 1947. Badly damaged. In service 73 days. Installed new cable No. 991 on March 7, 1947.

Powell Street Line—Removed old cable No. 991 on May 6, 1947. Badly damaged. In service 60 days. Installed new cable No. 992 on May 6, 1947.

Mason Street Line—Removed old cable No. 987 on May 30, 1947. In service 113 days. Worn out. Installed new cable No. 990 on May 30, 1947.

SECTIONS AND STRANDS INSTALLED

Powell Street Cable:

2 strands	40 feet long	July 6, 1946
Section	240 feet long	July 30, 1946
2 strands	50 feet long	July 31, 1946
1 strand	50 feet long	September 17, 1946
2 strands	60 feet long	September 30, 1946
1 strand	60 feet long	October 6, 1946
2 strands	45 feet long	December 11, 1946
2 strands	50 feet long	April 22, 1947
3 strands	60 feet long	May 3, 1947

Jackson Street Cable:

1 strand	40 feet long	August 24, 1946
2 strands	45 feet long	November 13, 1946
2 strands	50 feet long	April 18, 1947
1 strand	50 feet long	May 1, 1947
Section	240 feet long	June 14, 1947

Mason Street Cable:

Section	165 feet long	January 31, 1947
Section	190 feet long	May 10, 1947

The above piecing was required because of rough usage, such as hitting bumpers, ripping, coasting, and skinning of cables.

BUMPERS HIT DURING THE YEAR 1946-1947

Mason Street Line	13
Jackson Street Line	89
Powell Street Line	93

WORK ON CABLES AFTER CLOSE OF OPERATION

Summary for Year

Crews averaging eight men were called out to work 106 nights after shutting down time to make repairs to damaged cables.

July 6, 1946—Defective strand, Powell Street cable.
July 8, 1946—Overhauled Mason cable splice and Jackson St. cable kinks.
July 11, 1946—Overhauled Jackson Street cable kinks.
July 15, 1946—Overhauled Powell Street cable splice.
July 24, 1946—Straightened Mason Street cable splice.
July 25, 1946—Overhauled Powell Street cable splice.
July 29, 1946—Overhauled Mason Street cable splice.
July 31, 1946—Straightened Powell Street cable splice.
August 1, 1946—Overhauled Powell Street cable kinks and damaged strands.
August 3, 1946—Cut out kink and respliced Powell Street cable.
August 6, 1946—Straightened Powell Street cable splice.

August 8, 1946—Straightened Mason Street cable splice.
August 14, 1946—Straightened new Powell Street cable splice.
August 15, 1946—Cut out old Mason Street cable splice.
August 16, 1946—Straightened Mason Street cable splice.
August 19, 1946—Overhauled Jackson Street cable kinks.
August 22, 1946—Overhauled Mason Street cable splice.
August 30, 1946—Cut out old splice and respliced Powell Street cable.
September 2, 1946—Straightened Powell Street cable splice.
September 6, 1946—Overhauled Jackson and Mason Streets cable splices.
September 13, 1946—Repaired rip in Powell Street cable.
September 16, 1946—Removed and replaced defective Powell Street cable strand.
September 23, 1946—Overhauled Jackson and Powell Streets cable splices.
September 24, 1946—Cut out old and respliced Mason Street cable.
September 29, 1946—Removed defective strand, Powell Street cable.
October 1, 1946—Overhauled Mason Street cable splice.
October 3, 1946—Replaced broken wires in bad rip, Powell Street cable.
October 5, 1946—Removed and replaced defective strand in Powell St. cable.
October 6, 1946—Repaired bad rip in Mason Street cable.
October 12, 1946—Straightened Powell and Mason Streets cable splices.
October 14, 1946—Repaired stranded Powell Street cable.
October 18, 1946—Straightened new Powell Street cable splice.
October 21, 1946—Drew tucks in Powell Street cable splice.
October 25, 1946—Straightened new Mason Street cable splice.
October 28, 1946—Repaired kink in Jackson Street cable.
October 30, 1946—Drew tucks and straightened Mason Street cable splice.
October 31, 1946—Cut out kink and respliced Jackson Street cable.
November 1, 1946—Cut and respliced Powell Street cable "out of tension."
November 3, 1946—Drew tucks and straightened Mason Street cable splice.
November 4, 1946—Straightened Powell Street cable splice.
November 12, 1946—Repaired kink in Jackson Street cable.
November 15, 1946—Cut out splice and respliced Mason Street cable.
November 17, 1946—Straightened Mason Street cable splice.
November 21, 1946—Drew tucks on Mason Street cable splices.
November 29, 1946—Straightened Powell Street cable splice.
December 4, 1946—Drew tucks and straightened Mason Street cable splice.
December 5, 1946—Straightened kinks in Jackson Street cable.
December 9, 1946—Straightened Jackson Street cable splice.
December 10, 1946—Repaired kink in Powell Street cable.
December 12, 1946—Cut and respliced Mason Street cable.
December 13, 1946—Straightened Jackson Street cable splice.
December 18, 1946—Straightened Mason Street cable splice.
December 25, 1946—Drew tucks and straightened Powell Street cable splice.
December 29, 1946—Drew tucks in Mason Street cable splice.
January 3, 1947—Straightened Powell Street cable splice.

January 7, 1947—Drew tucks in Powell Street cable splice.

January 10, 1947—Straightened Powell Street cable splice.

January 11, 1947—Straightened Mason Street cable splice.

January 14, 1947—Cut and respliced Powell Street cable.

January 17, 1947—Straightened Powell and Mason Streets cable splices.

January 21, 1947—Drew tucks, replaced broken wires, Mason Street cable.

January 30, 1947—Cut out rip in Mason Street cable and made a new splice.

January 31, 1947—Straightened Mason Street cable splice.

February 3, 1947—Drew both ends of head tuck and replaced broken wires, Powell Street cable.

February 7, 1947—Straightened new Mason Street cable splice.

February 9, 1947—Installed double strands through Powell Street cable kink.

February 10, 1947—Drew tucks in Mason Street cable splice and repaired broken wires.

February 13, 1947—Drew tucks in Mason Street cable splice and replaced broken wires.

February 14, 1947—Cut and respliced Jackson Street cable "out of tension."

February 16, 1947—Straightened Jackson Street cable splice.

February 17, 1947—Cut and respliced Mason Street cable—splice out of shape.

February 19, 1947—Installed double strands through Powell Street cable kink.

February 23, 1947—Drew tucks and straightened Jackson Street cable splice.

March 5, 1947—Repaired stranded Powell Street cable.

March 14, 1947—Straightened Powell Street cable splice.

March 17, 1947—Cut and respliced Powell Street cable "out of tension."

March 19, 1947—Straightened Powell Street cable splice.

March 21, 1947—Drew tucks in Mason St. cable splice, replaced broken wires.

March 25, 1947—Drew tucks in Powell Street cable splice and replaced broken wires.

March 28, 1947—Drew tucks in Mason St. cable splice, replaced broken wires.

March 31, 1947—Repaired break in Powell Street cable.

April 4, 1947—Straightened new splice in Powell Street cable.

April 6, 1947—Drew tucks in Powell Street cable splice, replaced broken wires.

April 7, 1947—Straightened Mason Street cable splice.

April 11, 1947—Cut and respliced Mason cable, splice out of shape.

April 14, 1947—Drew tucks in Powell Street cable splice, replaced broken wires.

April 23, 1947—Straightened Jackson Street cable splice.

April 25, 1947—Straightened Powell Street cable splice.

April 30, 1947—Repaired severed Jackson Street cable.

May 1, 1947—Installed single strand through kink in Jackson Street cable.

May 3, 1947—Repaired stranded Powell Street cable.

May 7, 1947—Straightened new Powell Street cable splice.

May 10, 1947—Drew tucks in Powell Street cable, replaced broken wires.

May 12, 1947—Repaired Mason and Jackson Streets cable kinks.

May 15, 1947—Drew tucks in Powell Street cable splice, replaced broken wires.

May 20, 1947—Overhauled Jackson Street cable kinks.

May 23, 1947—Drew tucks in Mason Street cable splice, replaced broken wires.

June 2, 1947—Cut and respliced Powell Street cable, "out of tension."

June 4, 1947—Drew tucks in Mason Street cable splice, replaced broken wires.

June 6, 1947—Straightened Powell Street cable splice.

June 9, 1947—Drew tucks in Powell Street cable splice, replaced broken wires.

June 11, 1947—Drew tucks in Powell Street cable splice, replaced broken wires.

June 16, 1947—Cut and respliced Jackson St. cable splice, old splice worn out.

June 18, 1947—Straightened Jackson Street cable splice.

June 19, 1947—Drew tucks in Powell Street cable, replaced broken wires.

June 26, 1947—Drew tucks in Mason Street cable splice, replaced broken wires.

NEW LAGGING INSTALLED ON CABLE WINDERS

Mason Street Cable Winder—Old lagging removed, in service 343 days; new lagging installed January 25, 1947.

Powell Street Cable Winder—Old lagging removed, in service 421 days; new lagging installed March 27, 1947.

REMOVAL OF OLD AND INSTALLATION OF NEW UNDERGROUND SHEAVES

Six-foot outgoing Mason Street cable sheave, in pit Powell and Mason Streets, September 6, 1946.

Eight-foot outgoing Powell Street cable sheave, in cable machinery basement, October 5, 1946.

OTHER AFTER-CLOSING OPERATIONS

Inspection and tightening of bolts on four 12-ft. Thomas tail sheaves at four locations.

Removal of torn-out and damaged bumper bar and bell, Jackson and Steiner Streets.

Patched cracked 8-ft. Thomas sheave, cable machinery basement.

Inspection and tightening of hub and segment bolts in 14-ft. diameter cable winder gear.

Patched cracked 14-ft. diameter spur gear in cable station.

MAJOR SHUTDOWNS FOR THE YEAR

July 1, 2, 3, 1946—Not operating because of strike.

July 25, 1946—Delay 6 hours, 33 minutes—bad rip—Mason Street cable only.

July 31, 1946—Delay 3 hours, 38 minutes, all lines—Powell Street cable one strand cut.

March 31, 1947—Delay 8 hours, 2 minutes, all lines—Powell Street cable cut in two at Powell and O'Farrell Streets.

April 18, 1947—Delay 4 hours, 53 minutes—Jackson Street cable only, bad kink, two strands installed.

May 3, 1947—Delay 5 hours, 30 minutes, all lines—Powell Street cable stranded.

April 21, 1947—Delay 5 hours, 17 minutes, all lines—Powell Street cable.

April 22, 1947—Delay 4 hours, 1 minute, all lines—Powell Street cable.

April 30, 1947—Delay 6 hours, 50 minutes, Jackson Street only—Jackson Street cut in two, Jackson Street between Mason and Taylor Streets.

Daily Maintenance—The daily maintenance of underground machinery consists of the inspection and lubrication of fourteen tail sheaves, twenty stationary pulleys, forty-six depression beams, ninety-one crown pulleys, 200 curve pulleys, and 823 carrying pulleys.

Inspection and overhauling of bumper bars and bells at eight locations are made once a week. 3,600 grip dies and 146 grip shanks were champered.

Cable machinery shop does the machine work on cast iron carrying pulleys, brass bearings, bushings, steel forgings, and grip parts. Grips repaired totaled 2,555 and new grips built totaled seventy-three or an average of six per month.

Maintenance of Overhead Line:

The following items are exclusive of the regular extensive overhead and underground maintenance, tree trimming, office, tunnel and car-yard lighting, semi-annual checking of utilities easements on poles and buildings, making of steel bracket and arm gains, beams of pole settings, welding and dressing of worn overhead, signal and switch parts, rebuilding of signals and track switches, repairing fire, telephone circuits, repairing auto towers and hoists, complete check of underground plant and feeders and servicing 2,730 emergency calls:

Plant transferred to poles and eyebolts	181 cases
Joint poles applied for	24 poles
Steel poles substituted for decayed or wrecked wood poles	64 poles
Wood poles substituted for decayed wood poles	55 poles
Steel or concrete poles repaired	38 poles
Steel or concrete poles removed	84 poles
Wood poles removed	39 poles
Poles painted	372 poles
Steel poles extended	54 poles
Pole castings repaired	6 cases
Sound for badly worn trolley wire	6 miles
Phone boxes installed or removed	7 locations
Compressor hose and "hot loop" and lights installed for track department	58 locations
Underground rail bonding installed	11 locations
Cement sidewalks repaired	60 locations
Block signals made modern	2
Skip-stop staff and signs installed or moved	16 locations
Sectionalizing switch boxes attended	6

SPECIAL ITEMS

Overhead plant removed on 20th Avenue.

Sewer construction on 17th Street called for setting steel strain poles, building underground feeder conduits at Mission Street taking down trackless trolley South Van Ness to Treat Avenue.

Removal of transmission line on Twin Peaks.

Repairs to tower at 1st and Market Streets.

Numerous trips with tower truck in connection with picture taking for publicity purposes.

Completing lighting in Turk Street building.

Installing antenna for radio on Twin Peaks.

Bush and Powell Streets signal control rebuilt.

Tower on auto towers rebuilt.

Rerouting of No. 33 coach line because of sewer construction on 17th Street.

Rebuilding overhead plant to suit new track work at Army and Bayshore Boulevard.

Rebuilding pit lights, etc., at various car houses.

Installing additional motor feed at Elkton shops.

Installing "call phone" at Geary Street car house.

Overhead plant removed on Sansome-Broadway north.

Trolley wires added at Funston yard.

Replacing overhead plant, track switches, etc., on Church Street (sewer construction).

Lighting Mariposa yard.

Extending poles for new street lighting on South Van Ness Avenue.

New lighting in halls at Geneva office building.

Time clock with box installed at Broad and Capitol Streets.

Overhead plant, poles, signals and signs removed from Illinois Street.

Temporary signals installed on Potrero and Bayshore Boulevard for track construction.

Overhead plant poles and feeders removed from 3rd and Channel Streets to 18th and Minnesota Streets.

Making up parts and installing six locations for car recorders.

Installing two-way radio in 28 cars and trucks.

Installing Neon crossing signs at Cypress Lawn and at Alemany and San Bruno Avenue.

Lighting new stations on suburban line.

Installing additional battery charger at Webster garage.

Additional antenna at Geary central control room.

Trolleys over temporary crossovers on Market Street at Mason Street.

Compressor at Mariposa yard was connected.

New street lighting at 21st and Chattanooga Streets.

Lights installing at inspector tower at 1st and Market Streets.

Rearranging overhead trolley sections on Market Street to transfer load from station "C" to downtown sub.

Replacing power service at Daly Quarry.

Additional street lighting on Sloat Boulevard.

Headway recorder installed at 9th and Judah Street.

Removing overhead plant and poles on "E" line for trackless trolley construction.

Making and installing shades for lights in timekeepers' office at Geneva office.

Overhead plant on 3rd and Channel bridge removed.

New street lights installed at Elkton yard.

Temporary "trolley coach" turn back installing on Union Street.

Overhead plant taken down and replaced for housemoving on San Jose Avenue near county line.

Installing power service at 2600 Geary Boulevard.

Taking down overhead and feeder plant on Polk and Larkin Streets.

Rearranging overhead plant and poles for street work on Presidio Avenue between Post and Bush Streets.

Convoy large plane (U. S. Navy) from Embarcadero to Civic Center and return.

Installing rectifier at Geary car house.

California Street, Spruce to Laurel, poles and overhead plant changed for street work.

Removal of temporary trackless plant on 15th Street.

Rearranging overhead plant and poles for change in sidewalk width at Stockton and Market Streets.

Old Haight Street car house plant removed.

Trolley over new crossover installed at San Bruno and Bacon Streets.

Motive Power Department:

From July 1, 1946, to June 30, 1947, the total power consumption at Municipal Railway substations, including Washington and Mason cable station, was

75,624,530 kwh. In addition to this, during the same period power purchased for the operation of the original Municipal Railway division totaled 43,194,190 kwh. The total consumption for the consolidated system during the year was 118,818,720 kwh, at a cost of $1,103,042.

In addition to normal operating and regular maintenance of all station equipment and semi-annual overhauling of the 600 volt D.C. automatic circuit breakers on trolley feeders and 11,000 volt oil break switches on motor generator sets and rotary converters, the following jobs were completed:

Resurfaced commutators on 1500 kw M.G. set No. 1 at Turk Street substation, Rotary No. 1 at 8th Avenue station, and 2000 kw Rotary No. 3 at downtown substation.

On November 4, 1946, a breakdown occurred in the 600 volt D.C. armature of the 1500 kw generator of M.G. No. 1 at Turk Street substation, which required the dismantling of the machine to replace 125 damaged armature coils.

Removed old insulation and reformed and retaped 120 D.C. armature coils taken from M.G. No. 1 at Turk Street station.

Replaced defective exciter rheostat on M.G. No. 4 at Bryant Street substation.

Installed 115 volt A.C. circuit with convenience outlets for use of extension lamps, soldering transformer and meter testing equipment at Bryant street substation.

Rearranged and extended 600 volt lighting circuits, also made up and installed new switch panels for same, to replace the open knife switches and fuses at both Geneva and Millbrae substations.

Relocated iron ladder to oil-switch gallery and extended railings at Bryant Street substation.

Installed iron ladders under M.G. No. 1 and No. 2 to replace defective steps at Geneva substation.

Rewired lighting circuits at motive power office.

Replaced worn-out lighting switches, also rearranged and extended lighting circuits in blower room and basement at 8th Avenue substation.

Installed transite barriers near potential transformer on 11 kv line No. 21 at Bryant Street station and around 11 kv switches of line No. 76 at downtown substation.

Repainted with Glyptal lacquer the string bands on edge of commutators on all M.G. sets and rotary converters.

Relocated telephone signal relay and replaced temporary wiring, also made up new heater for office at 8th Avenue station.

Installed Westinghouse recording voltmeter on 600 volt bus at downtown substation.

Installed differential voltmeter at Millbrae substation.

Overhauled bearing of 750 h.p. motor at Washington and Mason cable station.

Repaired and replaced 1000 amp. A.C. knife switches for motors on M.G. No. 1 and No. 2 at Millbrae station.

Installed railings around live 11,000 volt equipment located along wall in transfer room adjacent to Bryant Street substation.

In addition the following repairs were made by the equipment department:

Repairs to roof and new drain pipes at Millbrae substation.

Repairs to roof and painting of doors and window frames at Geneva and 8th Avenue substation.

Removal of palm trees, and paving in front of Geneva substation.

Bureau of Personnel and Safety:

On March 3, 1947, the Public Utilities Commission by resolution No. 8037, created a Bureau of Personnel and Safety, which bureau combined the functions of the former two bureaus which were abolished, namely—the Bureau of Personnel and the Bureau of Accident Prevention.

On April 28, 1947, by resolution No. 8175, Mr. Paul J. Fanning was appointed as director of this new Bureau of Personnel and Safety and on May 5, 1947, assumed the duties of this position with responsibilities for the functions and activities of the bureau, acting as liaison officer in personnel matters between the Manager of Utilities and the several utilities and the Civil Service Commission.

The functions and activities of this bureau include the following:

Direction and responsibility for the training of employees.

Making of organization and methods studies, and the recommending of improvements in organization structure and methods of operation, including installation of new work and operational methods and procedures.

Investigation and reporting on disciplinary matters.

Responsibility for recommending and instituting safe and efficient methods of equipment operation.

Analyzing and institution of accident reporting methods.

Studying of present and proposed routes of transportation vehicles for the purpose of eliminating traffic hazards.

Formulating and proposing, when necessary, revisions in safety rules.

Suggestion of equipment changes and modifications necessary to reduce accident hazards.

Supervision of maintenance of accident records to determine accident costs savings, resulting from accident prevention programs.

Conferring with other department and bureau heads to develop safety principals for the several bureaus of the Public Utilities Commission.

As this bureau has functioned less than two months in the past year, insufficient time has elapsed to coordinate and put into effect its program, or to reflect benefits which are anticipated through its functioning.

Bureau of Claims:

The total accident occurrences for the year totaled 13,869 as compared with the number of 16,127 in the previous year, a decrease of 2,258 or fourteen per cent. This decrease in accidents, though not to the extent desired, is very gratifying and reflects the efforts made by the management through the Bureau of Claims and the Bureau of Personnel and Safety to reduce accident occurrences from the abnormal number of the previous year.

Contributing factors to the number of accidents experienced during the year were the congested traffic conditions prevailing, the overcrowding of cars and coaches at peak periods on account of shortage of equipment, the age and condition of the present rolling stock, and the large turn-over of operating personnel. Car and coach miles operated during the year totaled 30,063,299 miles, an increase of 608,352 miles or 2.07 per cent over the previous year.

Accident payments and costs for the fiscal year 1946-1947 totaled $1,531,548.16 as compared with $1,051,996.34 in the previous year, an increase of $479,551.82. In this connection it must be noted that the accident payments for the fiscal year 1946-1947 apply to accidents occurring in previous years, as well as to the fiscal year 1946-1947.

Allocation of payments to the years in which accidents occurred follows:

1946-1947	$553,058.06
1945-1946	382,031.17
1944-1945	539,659.36
Prior	56,799.57
Total	$1,531,548.16

Strict disciplinary measures are being continued with street car and coach operators where negligence is shown or where violations of accident and safety rules occur, with penalties ranging from suspensions to dismissals. Constant instruction in measures of safety of operation are likewise being made. It is anticipated that the continued application of these measures will result in a further decrease in the number of accidents and in lower accident costs.

As a measure of protection against liability for large payments arising from a single accident, the railway carries insurance coverage in the form of an "Excess Public Liability and Property Damage" policy. This policy affords protection for the excess cost of any single accident occurrence over $37,500 and up to $500,000 and does not limit the number of occurrences.

In the following pages of this report will be found statistical statements relative to accidents and costs.

MUNICIPAL RAILWAY OF SAN FRANCISCO

ANNUAL REPORT OF BUREAU OF CLAIMS

Fiscal Year Ended June 30, 1947

Number of accidents, total	13,869
Number of personal injury accidents (included in above)	3,903
Number of fatal accidents* (included in above)	(32)
Number of employee accidents (included in above)	1,064
Number of passengers carried	314,623,064
Accidents per 100,000 passengers	4.408
Personal injuries per 100,000 passengers	1.241
Fatalities per 100,000 passengers	.010
Car miles operated	30,063,299
Passengers carried per car mile operated	10.47
Accidents per 100,000 car miles	46.13
Personal injuries per 100,000 car miles	12.98
Fatalities per 100,000 car miles	.10
Claims presented	4,135
Claims adjusted (including suits disposed of)	3,069
Suits filed	400
Suits disposed of	376
Suits pending	675
Per cent claims presented to accidents	29.81
Per cent settlements to accidents	22.13
Per cent settlements to claims presented	74.22
Total operating revenue	$19,038,755.53

Amounts Paid

Personal injury settlements	$1,113,809.63
Property damage settlements	110,242.02
†Salaries and wages	207,284.43
†Miscellaneous and hospital expense	74,214.81
Excess liability accident insurance	25,997.27
Total expenditures—claims department	$1,531,548.16

Ratio expenditures to operating revenue	.08044
Personal injury cost per 1,000 passengers	$3.54
Personal injury cost per 1,000 car miles	$37.05
Total expenditures cost per 1,000 passengers	$4.87
Total expenditures cost per 1,000 car miles	$50.94

*Parenthetical number of deaths noted (32) are reported in some other classification of accidents.

†Salaries and wages account, and miscellaneous and hospital expense account, include expenses of the City Attorney's office amounting to $92,260.00 for the year.

MUNICIPAL RAILWAY OF SAN FRANCISCO
SUMMARY OF TYPES OF ACCIDENTS

Occurring During the Fiscal Year Ended June 30, 1947

Classification	Electric Car	Cable Car	Motor Coach	Trolley Coach	Total
Traffic Accidents					
Collision with person	272	7	67	8	354
Deaths	(18)	(3)	(11)	(0)	(32)
Collision with own bus or cars	187	9	32	3	231
Collision with other motor vehicles	4,577	444	1,331	245	6,597
Collision with fixed objects	8	9	25	4	46
Collision with other objects	37	1	18	6	62
Derailments or switch occurrences	63	8	..	..	71
Passenger Accidents					
Boarding moving car	830	27	1	..	858
Caught or struck by doors	6	..	30	5	41
Trips, slips, stumbles, others	141	5	18	2	166
Alighting moving car	475	25	4	2	506
Caught or struck by doors	19	..	96	10	125
Trips, slips, stumbles, others	225	5	68	11	309
Occurrences on board:					
Thrown, fell or slipped	784	55	225	16	1,080
Other injuries	352	12	64	2	430
In-between cars	34	..	..	..	34
Total	8,010	607	1,979	314	10,910

SUMMARY OF TYPES OF ACCIDENTS—(Continued)

Classification	Electric Car	Cable Car	Motor Coach	Trolley Coach	Total
Other Accidents					
Wearing apparel, fainting, miscellaneous, etc.	1,149	46	180	26	1,401
Employee accidents	1,064	..	..	..	1,064
Broken windows	462	3	15	14	494
Total	2,675	49	195	40	2,959
Grand total	10,685	656	2,174	354	13,869
Witnesses	18,515	1,811	4,366	651	25,343
Witnesses per accident report	1.73	2.76	2.01	1.84	1.83

Collections for Damages to Railway Property:

The policy of collecting for damages to Municipal Railway property from motorists and others liable therefor was instituted on August 1, 1941. The following is a summary of collections made by fiscal years since the inception of this procedure:

Fiscal Year	Amount Collected
1941-1942 (11 months only)	$3,016.40
1942-1943	2,310.69
1943-1944	5,017.99
1944-1945	5,398.76
1945-1946	9,468.23
Sub-total—5 fiscal years	$25,212.07
1946-1947	22,229.23
Total	$47,441.30

COMMENTS ON FINANCIAL STATEMENTS
GENERAL BALANCE SHEET
EXHIBIT "A"

FIXED CAPITAL—LESS DEPRECIATION			$10,448,946.48
Composition of this amount is as follows:			
Road and Equipment:			
Municipal Railway		$13,251,515.00	
Market Street Extension		30,803,371.92	
		$44,054,886.92	
Analysis of this amount is given in Schedule I, which reflects the additions and retirements for the fiscal year. In accordance with the survey of properties for depreciation purposes, the sum of $435,186.30 has been reserved for depreciation for the original Municipal Railway properties, while the sum of $883,017.56 has been reserved for depreciation for the Market Street extension properties during the current year.			
New Construction in Progress		$478,492.57	
The items making up this total consist of $9,373.99 for construction of headway recording devices, $92,587.71 for additions and improvements to car barn buildings, $331,950.62 for costs in connection with "E" line conversion to trolley coaches, $528.35 for fare boxes, $3,601.03 for preliminary engineering studies in connection with miscellaneous crossovers and extensions, $39,210.35 for costs in connection with the Stockton Street extension, and $1,240.52 for miscellaneous items. These costs are incomplete as of June 30, 1947.			
		$44,533,379.49	
Deduct:			
Reserve for Depreciation		$32,061,566.92	
Municipal Railway	$8,592,676.62		
This represents amount charged to operations and credited to depreciation of properties from December 28, 1912, to June 30, 1947, less charges for retirements.			
Market Street Extension	23,468,890.30		
Of this amount $22,587,610.00 was set up as an accrual against properties acquired from the Market Street Railway Company on September 29, 1944. The balance has been charged to operations (less $687,425.30 charged to "Excess of Appraised Valuation over Purchase Cost") and credited to depreciation of properties from December 28, 1912, to June 30, 1947, less charges for retirements.			
	$32,061,566.92		
Excess of Appraised Valuation over Purchase Cost		2,022,866.09	
This represents the excess value of properties acquired from the Market Street Railway Company over the actual cost of purchase.			
Sound value of properties acquired	$10,091,110.21		
Purchase cost (less materials) $7,278,701.18			
Provision for depreciation to June 30, 1947 687,425.30			
Retirements to June 30, 1947 76,545.81			
Audit adjustments to June 30, 1946 25,571.83	8,068,244.12		
	$2,022,866.09		34,084,433.01
Net value of properties as above			$10,448,946.48

CASH WITH THE TREASURER		$5,184,864.31
The funds comprising this amount are as follows:		
Municipal Railway Bond Redemption Fund	1,000.00	
Municipal Railway Bond Interest Fund	1,655.00	
The above two funds are maintained by transfer to meet principal maturities and bond interest as they become due.		
Municipal Railway Operating Fund	2,933,799.24	
This fund is maintained for payment of normal expenses of operation and also contains unallocated reserves of the railway.		
Market Street Extension	851,542.10	
This fund is maintained for payment of Market Street extension proportion of operating expenses and payments on unpaid balance of purchase cost.		
Surplus Fund	3,148.98	
This fund is maintained in accordance with provisions of Charter section 127.		
Reconstruction and Replacement Fund	1,378,718.99	
For analysis of this fund see Exhibit "C."		
The balances in all the above funds have been reconciled with the records of the treasurer of the City and County of San Francisco by the accounting staff of the Municipal Railway.		
Revolving Fund	15,000.00	
This fund is maintained for payment of small accident claims and expenses in connection with special investigations. It is in the custody of the following officers:		
Wm. H. Scott, General Manager $5,000.00		
Donald Mazzoni, General Claims Agent 10,000.00		
$15,000.00		
These funds have been reconciled with certifications obtained from the depositary and have been found to be in balance.		
	$5,184,864.31	
MISCELLANEOUS ACCOUNTS RECEIVABLE		33,612.58
Due from Pacific Telephone & Telegraph Company: Pole rental	44.06	
Due from Pacific Gas & Electric Company: Pole rental	4,313.62	
Due from California Street Cable Railroad Company: Services of signalman at Powell and California Streets	888.84	
Due from Chas. L. Harney: Emergency Repairs at Kearny and Market Streets	75.70	
Due from Western Union Telegraph Company: Pole rental	7.50	
Due from Fielder-Sorensen Company: Advertising in cars and coaches	15,304.62	
Due from Johnson & Higgins: Refund on insurance	1,176.10	
Due from Nichols & Fay: Insurance claims	6,193.44	
Due from Miscellaneous: Chartered Buses and Sales of Tokens	5,597.91	
Due from Shell Oil Company: Pole rental	2.00	
Due from Dom Politeo: Repairs to Trolley Coach No. 525	8.79	
Total	$33,612.58	

INTERFUND ACCOUNTS RECEIVABLE		6,288.40
Due from Department of Public Works:		
Construction of traffic islands, etc., in connection with extension of Potrero Avenue tracks	1,918.80	
Due from Public Utilities Commission:		
Unexpended amount of money advanced to Public Utilities Commission	3,094.78	
Due from Hetch Hetchy Water Supply:		
Unexpended amount of money advanced to Hetch Hetchy Water Supply	1,274.82	
Total	$6,288.40	
INTRAFUND ACCOUNTS RECEIVABLE		1,597,891.44
Amounts as follows are due between funds of the Municipal Railway:		
Due to Reconstruction and Replacement Fund from Operating Fund for loan to purchase rails, etc.	$65,031.34	
Due to Operating Fund from Reconstruction and Replacement Fund for labor and materials used on reconstruction and replacement jobs	89,176.98	
Due to Operating Fund from Reconstruction and Replacement Fund for loan to purchase materials	443,683.12	
Due to Market Street Extension Fund from Operating Fund for cash transferred to cover anticipated expenditures by Operating Fund	1,000,000.00	
Total	$1,597,891.44	
DEFERRED CHARGES		2,788,735.14
Materials and Supplies at Division and Bryant Streets	834,071.59	
Materials and supplies perpetual inventories are maintained. The Division and Bryant Streets records include materials and supplies at 24th and Utah Streets and at Elkton Yard. Physical inventories were taken of all stores. Tabulating machine equipment handles the stores records.		
Replacement Jobs in Progress	378,737.84	
Contract, P. O., S. O., and O. W. Liability (Contra)	1,561,110.29	
This item represents an unadjusted debit for contract, purchase order, service order, and order for work liability on which no materials have been delivered and no services have been performed, but contracted for, and is offset under accounts payable by a similar amount.		
Prepaid Expenses:		
Hetch Hetchy Water Supply $6,112.35		
Public Utilities Commission 546.69		
Insurance 7,670.56	14,329.60	
Suspense Debits	485.82	
Total	$2,788,735.14	
BONDED DEBT		601,000.00
Funded Debt Unmatured	600,000.00	
The following is a recapitulation of the unmatured funded debt:		
Municipal Railway 5%—1913		
Total Issue $3,500,000.00		
Matured to June 30, 1947 2,900,000.00		
Unmatured June 30, 1947 600,000.00		
Date of final maturity December 1, 1952		
Matured Funded Debt Unpaid	1,000.00	
Bonds in the amount of $1,000.00 had matured prior to June 30, 1947, but had not been presented for redemption on that date.		
Total	$601,000.00	

MARKET STREET RAILWAY PURCHASE—BALANCE DUE		1,934,347.46
Balance due on original purchase price of $7,500,000.00.		
BOND INTEREST PAYABLE		1,655.00
Interest coupons matured but not presented for payment on June 30, 1947.		
BOND INTEREST PAYABLE—ACCRUED		2,500.00
Interest accrued to June 30, 1947, but not due until December 1, 1947.		
ACCOUNTS PAYABLE		3,131,647.28
This amount consists of the following:		
Unpaid Warrants—Market Street Extension Fund	$3,543.01	
Unpaid Warrants—Operating Fund	938,171.46	
Unpaid Warrants—Reconstruction and Replacement Fund	15,386.89	
Invoices—Market Street Extension Fund not Vouched by Controller	279,461.94	
Invoices—Operating Fund not Vouched by Controller	286,017.14	
Invoices—Reconstruction and Replacement Fund not Vouched by Controller	13,281.99	
Payrolls Payable—Regular	470.23	
Payrolls Payable—Miscellaneous	6,299.90	
Contracts Payable	27,904.43	
Contract, P. O., S. O., and O. W. Liability (Contra)	1,561,110.29	
Items contracted for, but for which no materials have been delivered nor services rendered.		
Total	$3,131,647.28	
INTERFUND ACCOUNTS PAYABLE		852,811.77
This item represents accounts payable to other city departments as of June 30, 1947. See Exhibit "F."		
INTRAFUND ACCOUNTS PAYABLE (CONTRA)		1,597,891.44
Amount due between funds of the Municipal Railway. See Exhibit "E."		
ACCIDENT AND OTHER RESERVES		2,676,068.72
Accident Reserve:		
The following is an analysis of this account for the current fiscal year:		
Balance, June 30, 1946	$2,000,000.00	
Addition to reserve during year—10% of passenger revenue	1,889,001.67	
Total	$3,889,001.67	
Less: Claims paid, legal, and other expense	1,531,548.16	
Balance, June 30, 1947	$2,357,453.51	
Reserve for Token Liability	179,305.42	
Amount of tokens outstanding.		
Reserve for Employee Compensation Claims	100,000.00	
Estimated compensation payments to employees injured in accidents occurring to June 30, 1947.		
Miscellaneous Deposits	730.91	
Reserve for Obsolescence in Inventory	25,161.57	
This is the reserve for slow-moving and obsolete materials set up as a result of audit adjustment.		

Suspense Credits		13,417.31	
This consists of $6.001.88, Reserve for Tire Purchase on Navy coaches, $5,311.91 for unclaimed payroll checks, $183.25 for unclaimed conductors' shorts and overs, $1,902.53 for Reserve for Excess Liability Insurance, and $17.74 miscellaneous.			
Total		$2,676,068.72	
SURPLUS JUNE 30, 1947			9,262,416.68
Surplus as shown in Exhibit "A" is composed of the following items:			
Contributed Surplus June 30, 1946		$1,580,606.28	
From Operations to June 30, 1946	$9,411,140.37		
Less: Adjustments to June 30, 1946	1,900,054.43	7,511,085.94	
Surplus June 30, 1946		$9,091,692.22	
From Operations during fiscal year 1946-1947	*$531,150.12*		
From Contributions during fiscal year 1946-1947	701,874.58	170,724.46	
Total Surplus June 30, 1947		$9,262,416.68	
COMPARISON CHARGES—TAXES AND OTHER ITEMS			6,399,288.03
The Municipal Railway being a municipally-owned utility is not required to pay taxes other than use or sales taxes to the City and County of San Francisco nor to the State of California. For comparative purposes, taxes and other items have been recorded as follows:			
Taxes			
State of California	$3,102,272.29		
City and County of San Francisco—Franchise	974,484.13		
City and County of San Francisco—Car License	35,988.75		
City and County of San Francisco—Local	2,241,143.61		
Federal Income Tax	13,270.61	6,367,159.39	
Services Furnished			
Water furnished without charge by the San Francisco Water Dept.		32,128.64	
Total		$6,399,288.03	

Italic figures denote loss and deficiency.

EXHIBIT "A"
MUNICIPAL RAILWAY OF SAN FRANCISCO
BALANCE SHEET—JUNE 30, 1947

ASSETS

FIXED CAPITAL:			
Road and Equipment:			
Municipal Railway	$13,251,515.00		
Less: Reserve for Depreciation	8,592,676.62	$4,658,838.38	
Market Street Extension	$30,803,371.92		
Less: Reserve for Depreciation	23,468,890.30		
	$7,334,481.62		
Less: Excess of Appraised Valuation over Purchase Cost	2,022,866.09	5,311,615.53	
New Construction in Progress		478,492.57	$10,448,946.48
CASH:			
On Deposit with Treasurer:			
Operating Fund		$2,933,799.24	
Bond Redemption Fund		1,000.00	
Bond Interest Fund		1,655.00	
Reconstruction and Replacement Fund		1,378,718.99	
Surplus Fund		3,148.98	
Market Street Extension		851,542.10	
OTHER CASH:			
Revolving Fund		15,000.00	5,184,864.31
ACCOUNTS RECEIVABLE:			
Miscellaneous			33,612.58
ACCOUNTS RECEIVABLE—INTERFUND:			
Department of Public Works		1,918.80	
Public Utilities Commission		3,094.78	
Hetch Hetchy Water Supply		1,274.82	6,288.40
INTRAFUND ACCOUNTS—Schedule Annexed			1,597,891.44
DEFERRED CHARGES:			
Materials and Supplies		$834,071.59	
Replacement Jobs in Progress		378,737.84	
Suspense Debits		485.82	
Prepaid Expenses:			
Hetch Hetchy Water Supply	$6,112.35		
Public Utilities Commission	546.69		
Insurance	7,670.56	14,329.60	
Contract, Purchase Order, Service Order, Order for work, etc. (Contra)		1,561,110.29	2,788,735.14
			$20,060,338.35

LIABILITIES

BONDED DEBT:			
Issue of Dec. 1, 1913, due 1947-52 at rate of $100,000 per year		$600,000.00	
Matured Bonds (1913 Issue)		1,000.00	$601,000.00
MARKET ST. RAILWAY PURCHASE—Balance Due			1,934,347.46
BOND INTEREST PAYABLE:			
Accrued—Not Due		$2,500.00	
Matured Coupons Unpaid:			
1913 Issue	$1,610.00		
1910 Issue (Geary Street)	22.50		
1910 Issue (Market Street)	22.50	1,655.00	4,155.00
ACCOUNTS PAYABLE:			
Warrants Outstanding		$957,101.36	
General Creditors		578,761.07	
Payrolls Payable—Regular	$470.23		
Payrolls Payable—Miscellaneous	6,299.90	6,770.13	
Contracts Payable		27,904.43	
Contract, Purchase Order, Service Order, Order for Work, etc. (Contra)		1,561,110.29	3,131,647.28
INTERFUND ACCOUNTS—Schedule Annexed			852,811.77
INTRAFUND ACCOUNTS (Contra)			1,597,891.44
DEFERRED CREDITS:			
Accident Reserve		$2,357,453.51	
Reserve for Obsolescence in Inventory		25,161.57	
Suspense Credits		13,417.31	
Reserve for Token Liability		179,305.42	
Miscellaneous Deposits		730.91	
Reserve for Employees' Compensation Claims		100,000.00	2,676,068.72

SURPLUS

BALANCE—June 30, 1946:			
Contributed	$1,580,606.28		
Earned Surplus	7,511,085.94	$9,091,692.22	
Contributed—January, 1947	$688,751.58		
Contributed—June, 1947	13,123.00	701,874.58	
		$9,793,566.80	
NET DEFICIT—For Twelve Months Ended June 30, 1947		531,150.12	
BALANCE—June 30, 1947			9,262,416.68
			$20,060,338.35

EXHIBIT "B"

MUNICIPAL RAILWAY OF SAN FRANCISCO

COMPARATIVE INCOME STATEMENT FOR JUNE 1947 AND TWELVE MONTHS OF FISCAL YEAR 1946-1947

	Twelve Months to June 30				Cumulative from December 28, 1912, to June 30, 1947	
REVENUE:	1947	%	1946	%		%
Passenger Revenue	$18,890,016.71	100.00	$17,290,399.62	100.00	$150,823,529.84	100.00
Advertising Revenue	120,607.32	....	120,557.57	....	858,852.50	....
Miscellaneous	28,131.50	....	26,791.34	....	228,268.28	....
Total Revenue	$19,038,755.53	....	$17,437,748.53	....	$151,910,650.62	....
OPERATING EXPENSES:						
I Way and Structures	$990,926.02	5.25	$656,710.29	3.80	$6,215,254.28	4.12
II Equipment	1,832,625.60	9.70	1,598,393.89	9.24	10,515,350.01	6.97
III Power	1,307,610.27	6.92	1,293,223.34	7.48	17,528,254.75	11.62
IV Conducting Transportation	10,648,595.92	56.37	8,456,412.87	48.91	75,917,830.45	50.34
VI General and Miscellaneous	1,746,760.45	9.25	1,351,425.17	7.82	10,270,354.40	6.81
Total Operating Expense	$16,526,518.26	87.49	$13,356,165.56	77.25	$120,447,043.89	79.86
PROFIT FROM OPERATIONS	$2,512,237.27	....	$4,081,582.97	....	$31,463,606.73	....
DEDUCT PROVISIONS FOR:						
Accidents	1,889,001.67	10.00	1,729,758.33	10.00	8,238,279.16	5.46
Depreciation	1,073,837.58	5.68	1,018,793.44	5.89	12,190,761.95	8.08
Total Deductions	$2,962,839.25	15.68	$2,748,551.77	15.89	$20,429,041.11	13.54

(Continued on page 316)

EXHIBIT "B"—(Continued)

	Twelve Months to June 30				Cumulative from December 28, 1912, to June 30, 1947	
	1947	%	1946	%		%
INCOME FROM OPERATIONS	*$450,601.98*	....	$1,333,031.20	....	$11,034,565.62	....
NON-OPERATING INCOME:						
Income from Securities Owned	.....	....	.....	....	597,037.91	....
Interest on Bank Balance	5,257.12	....	5,359.95	....	102,344.83	....
Subsidy from Harbor Commission	.....	....	.....	....	70,229.71	....
Other Income (P & L)	46,115.25	....	*92,541.90*	....	323,189.11	....
Total Non-Operating Income	$51,372.37	....	*$87,181.95*	....	$1,092,801.56	....
GROSS INCOME	*$399,229.61*	....	$1,245,849.25	....	$12,127,367.18	....
DEDUCTIONS FROM GROSS INCOME:						
Interest on Funded Debt	32,083.34	.17	37,083.33	.21	4,624,434.24	3.07
Interest During Acquisition	85,721.02	.45	119,808.08	.69	332,433.21	.22
Taxes	14,116.15	.07	11,922.03	.07	36,894.71	.02
Miscellaneous Debits (P & L)	.....	....	.....	....	153,669.20	.10
Total Deductions from Gross Income	$131,920.51	.69	$168,813.44	.97	$5,147,431.36	3.41
NET INCOME	*$531,150.12*	*2.81*	$1,077,035.81	6.23	$6,979,935.82	4.63

Italic figures denote loss and deficiency.

EXHIBIT "C"

MUNICIPAL RAILWAY OF SAN FRANCISCO

RECONSTRUCTION AND REPLACEMENT FUND—JUNE 30, 1947

Total paid into and/or owing to Fund, May 1, 1926, to June 30, 1946		$4,589,347.37	
Expended for Replacements May 1, 1926, to June 30, 1946	$3,042,495.10		
Expended and Charged to Surplus May 1, 1926, to June 30, 1946	15,097.27		
Transfer to Operating Fund—Purchase of Materials during Fiscal Year 1944-1945	140,000.00		
Transfer to Operating Fund—Purchase of Materials during Fiscal Year 1945-1946	135,583.76		
Transfer to Market Street Extension Fund—Charter Section 119.1 (par. 3) (c) during Fiscal Year 1944-1945	41,596.08		
Transfer to Market Street Extension Fund—Charter Section 119.1 (par. 3) (c) during Fiscal Year 1945-1946	15,883.67	3,390,655.88	
Unencumbered Balance, June 30, 1946			$1,198,691.49
Total paid into Fund, July 1, 1946, to June 30, 1947	$604,293.00		
Bill No. 4757, Ord. 4488, a Supplemental Appropriation to provide funds for relocation of Municipal Railway Tracks in connection with development of Anzavista Sub-division	110,000.00	$714,293.00	
Less: Charges for Replacements paid out of Operating Fund July 1, 1946, to June 30, 1947	$45,496.37		
Charges for Replacements paid out of Reconstruction and Replacement Fund, July 1, 1946, to June 30, 1947	918,457.03		
	$963,953.40		
Transfer to Operating Fund—Purchase of Materials	168,099.36	$1,132,052.76	
Net Decrease in Fund—July 1, 1946, to June 30, 1947			417,759.76
Unencumbered Balance at June 30, 1947			$780,931.73

The Unencumbered Balance consists of:

Cash	$1,378,718.99	
Due from Operating Fund for Loan to Purchase Rails, etc.	65,031.34	
Due to Operating Fund for Labor and Material used on Replacement Jobs Applicable to Year 1944-1945	*2,845.78*	
Due to Operating Fund for Labor and Material used on Replacement Jobs Applicable to Year 1945-1946	*40,831.83*	
Due to Operating Fund for Labor and Material used on Replacement Jobs Applicable to Year 1946-1947	*45,496.37*	
Due to Operating Fund for Loan to Purchase Materials	*443,683.12*	
Accounts Payable—General Creditors	*13,281.99*	
Warrants Outstanding	*15,386.89*	
Contracts Payable	*2,808.00*	
Due to General Fund	*68,262.92*	
Due to Hetch Hetchy Water Supply	*30,218.70*	
		$780,931.73

Italic figures denote loss and deficiency.

EXHIBIT "C-1"

MUNICIPAL RAILWAY OF SAN FRANCISCO

ACCIDENT RESERVE—JUNE 30, 1947

Total paid into and/or credited to Reserve May 1, 1926, to June 30, 1946	$5,777,313.74	
Expended for Injuries and Damages May 1, 1926, to June 30, 1946	3,777,313.74	
Unencumbered Balance, June 30, 1946		$2,000,000.00
Credited to Reserve, July 1, 1946, to June 30, 1947	1,889,001.67	
Less: Charges for Injuries and Damages paid out of Operating Fund, July 1, 1946, to June 30, 1947	1,531,548.16	357,453.51
Unencumbered Balance to June 30, 1947		$2,357,453.51

EXHIBIT "E"

MUNICIPAL RAILWAY OF SAN FRANCISCO

INTRAFUND ACCOUNTS—JUNE 30, 1947

Due Reconstruction and Replacement Fund through Operating Fund Bill No. 4290, Ordinance No. 4038, Supplemental Appropriation (1946-1947)	$26,425.00		
Due Reconstruction and Replacement Fund through Market Street Extension Fund, Bill No. 4291, Ordinance No. 4056, Supplemental Appropriation (1946-1947)	750,000.00	$776,425.00	
Less: Payment by Operating Fund—July 1, 1946, to June 30, 1947	$26,425.00		
Payment by Market Street Extension Fund—July 1, 1946, to June 30, 1947	577,868.00		
Returned to Unappropriated Balance of Funds, June 30, 1947	172,132.00	776,425.00	
Due Reconstruction and Replacement Fund from Operating Fund for Loan to Purchase Rails, etc.:			
Replacement Job No. 1382		$37,868.00	
Replacement Job No. 1456		15,000.00	
Replacement Job No. 1410		12,163.34	$65,031.34
Due Operating Fund from Reconstruction and Replacement Fund for Labor and Material used on Replacement Jobs during fiscal years:			
1944-1945		$2,848.78	
1945-1946		40,831.83	
1946-1947		45,496.37	89,176.98
Due Operating Fund from Reconstruction and Replacement Fund For Loan to purchase Material:			
Replacement Job No. 1534-M		$30,583.76	
Replacement Job No. 1564-M		78,599.36	
Replacement Job No. 1646-M		134,500.00	
Unallocated		200,000.00	443,683.12
Due Market Street Extension Fund from Operating Fund for Cash Transferred to Cover Anticipated Expenditures by Operating Fund			1,000,000.00
Total as per Balance Sheet			$1,597,891.44

EXHIBIT "F"

MUNICIPAL RAILWAY OF SAN FRANCISCO

INTERFUND ACCOUNTS PAYABLE—JUNE 30, 1947

GENERAL CITY AND COUNTY				
GENERAL FUND:				
Purchasing Department:				
Scavenger Services—1946-1947	$725.76			
Service Employees	33,248.19			
Stationery and Supplies	470.61			
Reproducing, Blueprinting, Photostating	117.56	34,562.12		
City Attorney:				
Reporters' Fees	$384.00			
Travel Expenses	333.15	717.15		
Department of Electricity:				
Maintenance and Repair of Radios		171.98		
Department of Public Works:				
Bureau of Building Repairs—Miscellaneous Services	$2,100.37			
Bureau of Engineering—Engineering and Inspection	2,833.06			
General Office—Reconstruction Scott Street Sewer	66,000.00	70,933.43		
Civil Service Commission:				
Advertising for Help		294.06		
Total General Fund			$106,678.74	
EMPLOYEES' RETIREMENT SYSTEM:				
Hospital Charges 1/1/47 to 6/30/47		$10,876.20		
Military Leave Matching, 10/1/46 to 6/30/47		2,700.00		
Compensation and Medical, 1/1/47 to 6/30/47		44,193.61		
Pension Matching, 10/1/46 to 6/30/47		423,348.05		
Additional Pension Matching Other, 7/1/46 to 6/30/47		30,760.00		
Prior Service, 10/1/46 to 6/30/47		20,700.00		
Total Employees' Retirement System			532,577.86	
COUNTY ROADS FUND:				
Department of Public Works:				
Paving Repairs, 1/1/47 to 6/30/47			71,451.62	
Total General City and County				$710,708.22
PUBLIC SERVICE ENTERPRISES				
PUBLIC UTILITIES COMMISSION:				
Bureau of Light, Heat, and Power—June Power			$90,787.17	
Hetch Hetchy Water Supply—Engineering			30,218.70	
San Francisco Water Department:				
Insurance			19,475.46	
Blueprinting and Photostating			903.26	
Repairing Packard No. 0035			308.99	
Service Employees			409.97	
Total Public Service Enterprises				142,103.55
Total as per Balance Sheet				$852,811.77

SCHEDULE I
MUNICIPAL RAILWAY OF SAN FRANCISCO
SCHEDULE OF ROAD AND EQUIPMENT AS OF JUNE 30, 1947

Acct No.	I—WAY AND STRUCTURES	Balance June 30, 1946	Additions Fiscal Year 1946-1947: Reconstruction and Replacement Fund	Additions Fiscal Year 1946-1947: Municipal Railway Fund	Additions Fiscal Year 1946-1947: Total	Adjustments During Fiscal Year 1946-1947	Retirements During Fiscal Year 1946-1947	Net Additions Fiscal Year 1946-1947	Balance June 30, 1947
502	Right of Way	$369,698.30	.....	.....	.....	.....	$16,355.97	*$16,355.97*	$353,342.33
503	Other Land Used in Operations, Cars	1,099,191.36	.....	$207.00	$207.00	.....	41,363.64	*41,156.64*	1,058,034.72
B503	Other Land Used in Operations, M.C.	56,000.00	.....	183,400.00	183,400.00	.....	.....	183,400.00	239,400.00
C503	Other Land Used in Operations, C.C.	34,200.00	.....	.....	.....	.....	.....	.....	34,200.00
504	Grading Cars	2,842,424.99	$21,575.89	4,816.54	26,392.43	.....	25,047.09	1,345.34	2,843,770.33
C504	Grading Cable Cars	920.00	.....	.....	.....	.....	.....	.....	920.00
505	Ballast, Cars	1,497,726.98	11,419.60	1,930.77	13,350.37	.....	12,678.67	671.70	1,498,398.68
C505	Ballast, Cable Cars	362.00	.....	.....	.....	.....	.....	.....	362.00
506	Ties, Cars	872,004.54	11,197.37	398.44	11,595.81	.....	9,906.06	1,689.75	873,694.29
C506	Ties, Cable Cars	390.00	.....	.....	.....	.....	.....	.....	390.00
507	Rails, Rail Fastenings and Joints, Cars	3,564,810.44	25,615.74	3,779.18	29,394.92	.....	35,061.82	*5,666.90*	3,559,143.54
C507	Rails, Rail Fastenings and Joints, C.C.	71,486.00	.....	.....	.....	.....	1,431.42	*1,431.42*	70,054.58
508	Special Work, Cars	1,717,608.93	12,787.21	689.43	13,476.64	.....	45,803.19	*32,326.55*	1,685,282.38
C508	Special Work, Cable Cars	74,795.00	.....	.....	.....	.....	.....	.....	74,795.00
509	Underground Construction, Cars	133,672.00	.....	.....	.....	.....	633.98	*633.98*	133,038.02
C509	Underground Construction, C.C.	775,399.00	.....	.....	.....	.....	12,513.96	*12,513.96*	762,885.04
510	Track and Roadway Labor, Cars	3,002,691.37	102,619.62	12,913.38	115,533.00	.....	33,877.05	81,655.95	3,084,347.32
C510	Track and Roadway Labor, C.C.	138,771.00	.....	.....	.....	.....	1,662.49	*1,662.49*	137,108.51
511	Paving, Cars	5,005,605.58	30,587.49	6,396.11	36,983.60	.....	66,759.33	*29,775.73*	4,975,829.85
C511	Paving, C.C.	160,287.00	.....	.....	.....	.....	2,885.85	*2,885.85*	157,401.15
511	Roadway Machinery and Tools, Cars	107,095.74	3,801.52	2,405.52	6,207.04	.....	2,701.60	3,505.44	110,601.18
B512	Roadway Machinery and Tools, M.C.	581.00	.....	.....	.....	.....	.....	.....	581.00
C512	Roadway Machinery and Tools, C.C.	465.00	.....	.....	.....	.....	.....	.....	465.00
513	Tunnels	14,987.49	.....	.....	.....	.....	.....	.....	14,987.49
515	Bridges, Trestles and Culverts	104,213.85	.....	.....	.....	.....	.....	.....	104,213.85
516	Crossings, Fences and Signs	137,550.60	83.21	.....	83.21	.....	50.00	33.21	137,583.81
517	Signal and Interlocking Apparatus, Cars	27,188.19	.....	.....	.....	.....	.....	.....	27,188.19
C517	Signal and Interlocking Apparatus, C.C.	1,741.00	.....	.....	.....	.....	.....	.....	1,741.00
518	Telephone and Telegraph Lines	638.58	.....	23,517.38	23,517.38	.....	.....	23,517.38	24,155.96
519	Poles and Fixtures, Cars	1,251,923.11	483.84	.....	483.84	.....	11,052.88	*10,569.04*	1,241,354.07
B519	Poles and Fixtures, Motor Coaches	691.77	.....	.....	.....	.....	.....	.....	691.77
C519	Poles and Fixtures, C.C.	3,613.00	.....	.....	.....	.....	.....	.....	3,613.00
T519	Poles and Fixtures, T.C.	65,655.34	.....	.....	.....	.....	.....	.....	65,655.34
520	Underground Conduits	369,320.06	.....	.....	.....	.....	.....	.....	369,320.06
521	Distribution System, Cars	2,232,680.67	1,647.35	406.38	2,053.73	.....	26,092.66	*24,038.93*	2,208,641.74
C521	Distribution System, C.C.	605.00	.....	.....	.....	.....	.....	.....	605.00
T521	Distribution System, T.C.	131,019.10	.....	.....	.....	.....	.....	.....	131,019.10
523	Shops and Car Houses, Cars	1,735,826.10	64,708.41	1,133.63	65,842.04	.....	15,405.19	50,436.85	1,786,262.95
B523	Shops and Car Houses, M.C.	241,849.55	804.89	14,130.47	14,935.36	.....	.....	14,935.36	256,784.91
C523	Shops and Car Houses, C.C.	336,410.00	.....	.....	.....	.....	.....	.....	336,410.00
T523	Shops and Car Houses, T.C.	47,028.38	.....	.....	.....	.....	.....	.....	47,028.38

524	Stations, Misc. Bldgs. and Structures, Cars.	165,985.27	.....	975.73	975.73	.....	.....	975.73	166,961.00
B524	Stations, Misc. Bldgs. and Structures, M.C.	1,906.25	.....	411.51	411.51	.....	.....	411.51	2,317.76
C524	Stations, Misc. Bldgs. and Structures, C.C..	123.00	.....	.....	.....	.....	.....	.....	123.00
T524	Stations, Misc. Bldgs. and Structures, T.C..	2,421.60	.....	.....	.....	.....	.....	.....	2,421.60
	Total—Way and Structures.....	$28,399,564.14	$287,332.14	$257,511.47	$544,843.61	.....	$361,282.85	$183,560.76	$28,583,124.90
	II—EQUIPMENT								
530	Passenger and Combination Cars, Cars....	$7,250,708.67	.....	$1,025.00	$1,025.00	.....	$612,477.63	*$611,452.63*	$6,639,256.04
B530	Passenger and Combination Cars, M.C.....	2,404,958.21	$390,804.89	157,755.79	548,560.68	$16,692.91 *20,820.29*	51,000.51	493,432.79	2,898,391.00
C530	Passenger and Combination Cars, C.C.....	222,992.00	.....	.....	.....	.....	.....	.....	222,992.00
T530	Passenger and Combination Cars, T.C.....	200,335.81	.....	.....	.....	.....	.....	.....	200,335.81
530-A	Fare Boxes, Cars.....	69,007.00	.....	.....	.....	.....	.....	.....	69,007.00
B530-A	Fare Boxes, Motor Coaches.....	32,078.80	.....	.....	.....	.....	316.24	*316.24*	31,762.56
T530-A	Fare Boxes, Trolley Coaches.....	2,933.60	.....	.....	.....	.....	.....	.....	2,933.60
532-A	Service Equipment, Electric.....	250,191.11	.....	.....	.....	.....	3,877.75	*3,877.75*	246,313.36
532-B	Service Equipment, Automotive.....	43,703.40	24,023.26	13,360.19	37,383.45	.....	4,357.40	33,026.05	76,729.45
533	Electric Equipment of Cars.....	3,306,079.88	.....	.....	.....	.....	259,220.35	*259,220.35*	3,046,859.53
T533	Electric Equipment of Trolley Coaches....	41,019.00	.....	1,688.53	1,688.53	.....	.....	1,688.53	42,707.53
536	Shop Equipment, Cars.....	544,200.56	6,652.21	978.46	7,630.67	.....	7,994.30	*363.63*	543,836.93
B536	Shop Equipment, Motor Coaches.....	65,715.49	.....	2,539.24	2,539.24	.....	.....	2,539.24	68,254.73
C536	Shop Equipment, Cable Cars.....	15,733.52	.....	.....	.....	.....	.....	.....	15,733.52
T536	Shop Equipment, Trolley Coaches.....	2,079.33	.....	88.40	88.40	.....	.....	88.40	2,167.73
537	Furniture, Cars	145,573.72	7,989.74	17,599.24	25,588.98	.....	5,103.63	20,485.35	166,059.07
B537	Furniture, Motor Coaches.....	13,776.00	.....	.....	.....	.....	359.06	*359.06*	13,416.94
C537	Furniture, Cable Cars.....	3,217.00	.....	.....	.....	.....	203.82	*203.82*	3,013.18
538	Miscellaneous Equipment, Cars.....	85,438.00	.....	23,531.86	23,531.86	.....	20,640.00	2,891.86	88,329.86
	Total—Equipment	$14,699,741.10	$429,470.10	$218,566.71	$648,036.81	*$4,127.38*	$965,550.69	*$321,641.26*	$14,378,099.84
	III—POWER								
540	Sub-station Buildings, Cars.....	$354,324.00	$5,621.40	.....	$5,621.40	.....	$2,704.93	$2,916.47	$357,240.47
C542	Power Plant Equipment, C.C.....	150,706.00	.....	.....	.....	.....	.....	.....	150,706.00
543	Sub-station Equipment, Cars.....	519,507.00	.....	.....	.....	.....	.....	.....	519,507.00
544	Transmission System, Cars.....	40,754.00	.....	.....	.....	.....	.....	.....	40,754.00
	Total—Power	$1,065,291.00	$5,621.40	.....	$5,621.40	.....	$2,704.93	$2,916.47	$1,068,207.47
	IV—GENERAL AND MISCELLANEOUS								
545	Franchises	$600.00	.....	.....	.....	.....	.....	.....	$600.00
	Total—General and Miscellaneous....	$600.00	.....	.....	.....	.....	.....	.....	$600.00
	SHOP TOOLS AND SUPPLIES								
	Shop Tools and Supplies.....	$24,854.71	.....	.....	.....	.....	.....	.....	$24,854.71
	Total—Shop Tools and Supplies.....	$24,854.71	.....	.....	.....	.....	.....	.....	$24,854.71
	Total—Road and Equipment.....	$44,190,050.95	$722,423.64	$476,078.18	$1,198,501.82	*$4,127.38*	$1,329,538.47	*$135,164.03*	$44,054,886.92

Italic figures denote loss and deficiency.

SCHEDULE II

MUNICIPAL RAILWAY OF SAN FRANCISCO

ANALYSIS OF RESERVE FOR DEPRECIATION AND RATES APPLICABLE TO FISCAL YEAR 1946-1947

Excluding Properties Acquired from Market Street Railway

Acct. No.	Description of Property	Cost at June 30, 1946	Audit Adjustment As of June 30, 1946	Adjusted Cost At June 30, 1946	Depreciable Cost	Accrued Depreciation June 30, 1946	1946-1947 Annual Depreciation Rate	1946-1947 Annual Depreciation Amount
502	Right of Way	$169,088.30	.....	$169,088.30	.....	.....	.....	.....
503	Other Land Used in Municipal R.R. Operation	344,141.36	.....	344,141.36	.....	.....	.....	.....
504	Grading	611,390.50	.....	611,390.50	$611,390.50	$193,956.19	1.920	$11,738.70
505	Ballast	375,425.59	.....	375,425.59	375,425.59	248,349.40	3.850	14,453.89
506	Ties	203,949.49	.....	203,949.49	203,949.49	190,991.12	3.850	7,852.06
507	Rails, Rail Fastenings and Joints	1,014,446.64	.....	1,014,446.64	943,435.38	846,429.02	3.580	36,317.19
508	Special Work	371,837.83	.....	371,837.83	364,401.07	295,269.94	5.440	20,227.98
510	Track and Roadway Labor	1,100,155.91	.....	1,100,155.91	1,100,155.91	813,176.82	4.170	45,876.50
511	Paving	1,363,150.11	.....	1,363,150.11	136,150.11	1,129,483.65	4.000	54,526.00
512	Roadway Machinery and Tools	32,317.74	.....	32,317.74	31,058.40	20,813.41	3.731	1,205.79
513	Tunnels	14,987.49	.....	14,987.49	14,987.49	14,987.49	.....	.....
515	Bridges, Trestles, and Culverts	4,660.85	.....	4,660.85	4,660.85	2,433.64	2.515	117 23
516	Crossings, Fences and Signs	46,903.60	.....	46,903.60	46,903.60	18,626.84	2.088	979.28
517	Signal and Interlocking Apparatus	20,160.19	.....	20,160.19	20,160.19	8,727.90	4.492	905.65
518	Telephone and Telegraph Lines	440.58	.....	440.58	440.58	236.88	6.659	29.34
519	Poles and Fixtures	278,576.39	.....	278,576.39	264,647.57	175,744.46	2.369	6,599.47
B519	Poles and Fixtures, M.C.	691.77	.....	691.77	657.18	49.29	2.375	16.43
T519	Poles and Fixtures, T.C.	25,655.34	.....	25,655.34	24,372.57	2,389.97	2.366	607.01
520	Underground Conduits	157,080.06	.....	157,080.06	153,938.46	83,941.20	1.782	2,799.17
521	Distribution System	829,646.46	.....	829,646.46	705,199.49	709,842.20	3.400	28,207.98
T521	Distribution System, T.C.	51,019.10	.....	51,019.10	43,366.24	8,163.04	4.000	2,040.76
523	Shops and Car Houses, Cars	1,028,284.10	.....	1,028,284.10	986,144.05	549,157.81	22.412	23,045.88
B523	Shops and Car Houses, M.C.	20,120.57	.....	20,120.57	20,120.57	568.65	5.247	1,055.78
T523	Shops and Car Houses, T.C.	47,028.38	.....	47,028.38	47,028.38	7,838.08	4.167	1,959.52
524	Stations, Misc. Bldgs. and Structures, Cars	49,369.27	.....	49,369.27	47,315.80	31,473.95	2.263	1,117.42
B524	Stations, Misc. Bldgs. and Structures, M.C.	1,906.25	.....	1,906.25	1,906.25	202.80	4.113	78.41
T524	Stations, Misc. Bldgs. and Structures, T.C.	2,421.60	.....	2,421.60	2,421.60	387.44	4.000	96.86

530	Passenger and Combination Cars, Street Cars.	1,747,118.21	.....	1,747,118.21	1,662,917.92	1,585,433.79	1.204	21,030.88
B530	Passenger and Combination Cars, M.C.....	1,170,035.60	*$20,820.29*	1,149,215.31	1,092,794.56	410,415.93	10.696	122,923.58
T530	Passenger and Combination Cars, T.C.....	118,105.81	.....	118,105.81	116,755.81	46,589.26	6.608	7,804.23
530-A	Fare Boxes, Cars.....	25,720.56	.....	25,720.56	24,434.53	1,628.97	6.333	1,628.97
B530-A	Fare Boxes, M.C.....	13,301.24	.....	13,301.24	12,636.18	686.61	6.333	842.41
T530-A	Fare Boxes, T.C.....	1,929.60	.....	1,929.60	1,833.12	122.21	6.333	122.21
532-A	Service Equipment, Electric.....	11,071.11	.....	11,071.11	10,852.93	9,816.67	.936	103.64
532-B	Service Equipment, Automotive.....	43,703.40	.....	43,703.40	42,626.74	37,167.48	5.214	2,278.51
533	Electric Equipment of Cars.....	866,541.51	.....	866,541.51	825,174.27	795,594.55	1.114	9,653.43
536	Shop Equipment, Cars.....	38,192.56	.....	38,192.56	37,788.50	36,101.38	.988	377.33
B536	Shop Equipment, M.C.....	34,105.49	.....	34,105.49	33,864.34	4,479.64	7.704	2,627.57
C536	Shop Equipment, C.C.....	72.52	.....	72.52	72.52	.....	100.000	72.52
T536	Shop Equipment, T.C.....	1,870.33	.....	1,870.33	1,870.33	948.19	11.941	223.34
537	Furniture and Office Equipment.....	65,961.12	.....	65,961.12	63,863.97	37,383.13	5.523	3,643.38
	Totals	$12,302,584.53	*$20,820.29*	$12,281,764.24	$10,077,723.04	8,319,609.00	3.543	$435,186.30

	Total Provision for Depreciation	Less Charges for Assets Retired	Balance Accrued Depreciation
Fiscal Years Ended 1913 to 1946.....	$9,260,875.98	.....	.....
Add: Charges to Reserve on account of Assets Retired June, 1921, to June, 1928.....	115,472.34	.....	.....
Add: Adjustment per Appraisal of Properties as of June 30, 1938...	590,255.23	.....	.....
Per Report June 30, 1946.....	$9,966,603.55	$1,646,994.55	$8,319,609.00
Year Ended June 30, 1947.....	435,186.30	162,118.68	273,067.62
	$10,401,789.85	$1,809,113.23	$8,592,676.62
			(Exhibit "A")
Add: Market Street Railway Depreciation 9/29/44 to 6/30/47 (Schedule II-A)	1,788,972.10		
	$12,190,761.95		
	(Exhibit "B")		

Italic figures denote loss and deficiency.

SCHEDULE II-A

MUNICIPAL RAILWAY OF SAN FRANCISCO

ANALYSIS OF RESERVE FOR DEPRECIATION AND RATES ON PROPERTIES ACQUIRED FROM MARKET STREET RAILWAY COMPANY

Applicable to Fiscal Year 1946-1947

Acct. No.	Description of Property	Cost at June 30, 1946	Audit Adjustment As of June 30, 1946	Adjusted Cost At June 30, 1946	Depreciable Cost	Accrued Depreciation June 30, 1946	1946-1947 Annual Depreciation		Distribution of Depreciation	
							Rate	Amount	Operations	Deferred Credit 27.674%
502	Right of Way	$200,610.00	.....	$200,610.00	.....	.....	.....	.....	.....	.....
503	Other Land Used in Operations, Cars	755,050.00	.....	755,050.00	.....	.....	.....	.....	.....	.....
B503	Other Land Used in Operations, M.C.	56,000.00	.....	56,000.00	.....	.....	.....	.....	.....	.....
C503	Other Land Used in Operations, C.C.	34,200.00	.....	34,200.00	.....	.....	.....	.....	.....	.....
504	Grading Cars	2,231,034.49	.....	2,231,034.49	$1,851,175.86	$1,476,941.99	2.197	$49,015.83	$35,451.19	$13,564.64
C504	Grading, C.C.	920.00	.....	920.00	920.00	819.36	1.513	13.92	10.07	3.85
505	Ballast, Cars	1,122,301.39	.....	1,122,301.39	1,043,740.29	856,434.89	2.769	31,076.53	22,476.41	8,600.12
C505	Ballast, C.C.	362.00	.....	362.00	362.00	328.17	1.290	4.67	3.38	1.29
506	Ties, Cars	668,055.05	.....	668,055.05	668,055.05	537,311.53	2.986	19,948.12	14,427.68	5,520.44
C506	Ties, C.C.	390.00	.....	390.00	390.00	353.78	1.287	5.02	3.63	1.39
507	Rails, Rail Fastenings and Joints, Cars	2,550,363.80	.....	2,550,363.80	2,371,838.33	1,910,491.21	2.485	63,376.54	45,837.72	17,538.82
C507	Rails, Rail Fastenings and Joints, C.C.	71,486.00	.....	71,486.00	66,482.00	62,042.53	.857	612.30	442.85	169.45
508	Special Work, Cars	1,345,771.10	.....	1,345,771.10	1,318,855.68	1,077,249.88	2.572	34,613.23	25,034.37	9,578.86
C508	Special Work, C.C.	74,795.00	.....	74,795.00	73,299.00	67,519.94	1.066	797.11	576.52	220.59
509	Underground Construction, Cars	133,672.00	.....	133,672.00	133,672.00	109,539.71	2.650	3,542.12	2,561.87	980.25
C509	Underground Construction, C.C.	775,399.00	.....	775,399.00	775,399.00	722,667.29	.938	7,273.31	5,260.50	2,012.81
510	Track and Roadway Labor, Cars	1,902,535.46	.....	1,902,535.46	1,902,535.46	1,533,314.61	2.688	51,140.15	36,987.62	14,152.53
C510	Track and Roadway Labor, C.C.	138,771.00	.....	138,771.00	138,771.00	129,152.53	.956	1,326.59	959.47	367.12
511	Paving, Cars	3,642,455.47	.....	3,642,455.47	3,642,455.47	2,913,000.98	2.668	97,180.71	70,286.92	26,893.79
C511	Paving, C.C.	160,287.00	.....	160,287.00	160,287.00	149,511.03	.927	1,486.30	1,074.98	411.32
512	Roadway Machinery and Tools, Cars	74,778.00	.....	74,778.00	71,160.00	63,983.52	2.499	1,868.77	1,351.61	517.16
B512	Roadway Machinery and Tools, M.C.	581.00	.....	581.00	552.00	510.38	2.590	15.05	10.89	4.16
C512	Roadway Machinery and Tools, C.C.	465.00	.....	465.00	443.00	412.73	4.211	19.58	14.16	5.42
515	Bridges, Trestles and Culverts	99,553.00	.....	99,553.00	99,553.00	52,739.92	1.907	1,899.38	1,373.75	525.63
516	Crossings, Fences and Signs	90,647.00	.....	90,647.00	90,647.00	69,739.49	2.343	2,124.28	1,536.41	587.87
517	Signals and Interlocking Apparatus, Cars	7,028.00	.....	7,028.00	7,028.00	5,249.82	7.633	536.47	388.01	148.46
C517	Signals and Interlocking Apparatus, C.C.	1,741.00	.....	1,741.00	1,741.00	1,174.68	10.000	174.10	125.92	48.18
518	Telephone and Telegraph Lines	198.00	.....	198.00	198.00	155.10	6.667	13.20	9.55	3.65
519	Poles and Fixtures, Cars	973,346.72	.....	973,346.72	924,679.38	750,831.36	2.508	24,411.54	17,655.89	6,755.65
C519	Poles and Fixtures, C.C.	3,613.00	.....	3,613.00	3,432.00	3,060.69	1.418	51.25	37.07	14.18
T519	Poles and Fixtures, T.C.	40,000.00	.....	40,000.00	38,000.00	24,130.00	1.900	760.00	549.68	210.32
520	Underground Conduits	212,240.00	.....	212,240.00	207,995.00	132,363.01	1.782	3,781.72	2,735.17	1,046.55
521	Distribution System, Cars	1,403,034.21	.....	1,403,034.21	1,192,579.08	962,975.41	2.324	32,606.52	23,582.98	9,023.54
C521	Distribution System, C.C.	605.00	.....	605.00	514.00	460.92	1.220	7.38	5.34	2.04
T521	Distribution System, T.C.	80,000.00	.....	80,000.00	68,000.00	20,886.00	2.429	1,942.86	1,405.19	537.67
523	Shops and Car Houses, Cars	707,542.00	.....	707,542.00	695,314.00	585,470.06	1.830	12,949.82	9,366.09	3,583.73
B523	Shops and Car Houses, M.C.	221,728.98	.....	221,728.98	221,728.98	157,993.09	1.667	3,695.48	2,672.79	1,022.69
C523	Shops and Car Houses, C.C.	336,410.00	.....	336,410.00	320,346.00	210,546.84	1.611	5,419.78	3,919.91	1,499.87

524	Stations, Misc. Bldgs. and Structures, Cars	116,616.00	.....	116,616.00	116,497.00	104,080.71	1.790	2,087.49	1,509.80	577.69
C524	Stations, Misc. Bldgs. and Structures, C.C.	123.00	.....	123.00	123.00	116.65	2.163	2.66	1.92	.74
530	Passenger and Combination Cars, Cars	5,503,590.46	.....	5,503,590.46	5,228,412.30	4,373,154.36	3.204	176,341.41	127,540.69	48,800.72
B530	Passenger and Combination Cars, M.C.	1,234,922.61	$16,692.91	1,251,615.52	1,133,442.50	644,653.79	9.956	124,608.01	90,123.99	34,484.02
C530	Passenger and Combination Cars, C.C.	222,992.00	.....	222,992.00	211,955.00	176,338.25	2.202	4,911.00	3,551.93	1,359.07
T530	Passenger and Combination Cars, T.C.	82,230.00	.....	82,230.00	78,118.00	42,315.00	5.291	4,340.00	3,138.95	1,201.05
530-A	Fare Boxes, Cars	43,286.44	.....	43,286.44	39,390.50	15,266.90	4.551	1,969.92	1,424.76	545.16
B530-A	Fare Boxes, M.C.	18,777.56	.....	18,777.56	17,759.00	6,823.55	4.729	888.00	642.25	245.75
T530-A	Fare Boxes, T.C.	1,004.00	.....	1,004.00	914.00	356.50	4.582	46.00	33.27	12.73
532-A	Service Equipment, Electric	239,120.00	.....	239,120.00	229,163.00	191,421.75	2.444	5,845.00	4,227.45	1,617.55
533	Electric Equipment of Cars	2,439,538.37	.....	2,439,538.37	2,317,559.90	2,030,821.82	2.367	57,746.52	41,765.75	15,980.77
T533	Electric Equipment of T.C.	41,019.00	.....	41,019.00	38,968.00	21,108.75	5.278	2,165.00	1,565.86	599.14
536	Shop Equipment, Cars	506,008.00	.....	506,008.00	504,254.00	426,690.77	3.097	15,670.65	11,333.95	4,336.70
B536	Shop Equipment, M.C.	31,610.00	.....	31,610.00	31,133.00	12,028.14	3.746	1,184.18	856.47	327.71
C536	Shop Equipment, C.C.	15,661.00	.....	15,661.00	15,636.00	14,781.23	3.058	478.88	346.35	132.53
T536	Shop Equipment, T.C.	209.00	.....	209.00	209.00	141.40	4.211	8.80	6.36	2.44
537	Furniture and Office Equipment, Cars	79,612.60	.....	79,612.60	75,819.89	57,840.17	4.027	3,206.30	2,318.99	887.31
B537	Furniture and Office Equipment, M.C.	13,776.00	.....	13,776.00	13,332.43	10,667.37	4.131	569.12	411.62	157.50
C537	Furniture and Office Equipment, C.C.	3,217.00	.....	3,217.00	3,098.96	2,377.66	4.147	133.42	96.50	36.92
538	Miscellaneous Equipment, Cars	85,438.00	.....	85,438.00	80,732.00	74,878.25	2.202	1,881.75	1,360.99	520.76
540	Sub-station Buildings, Cars	354,324.00	.....	354,324.00	352,546.00	238,153.39	1.728	6,123.65	4,428.99	1,694.66
C542	Power Plant Equipment, C.C.	150,706.00	.....	150,706.00	148,589.00	113,260.84	3.232	4,873.05	3,524.48	1,348.57
543	Sub-station Equipment, Cars	519,507.00	.....	519,507.00	441,572.00	393,153.14	2.557	13,286.12	9,609.32	3,676.80
544	Transmission System, Cars	40,754.00	.....	40,754.00	38,716.00	35,630.75	2.329	949.00	686.37	262.63
545	Franchises	600.00	.....	600.00	600.00	537.00	2.000	12.00	8.68	3.32
	Total	$31,862,611.71	$16,692.91	$31,879,304.62	$29,210,689.06	$23,575,960.59	2.770	$883,017.56	$638,651.28	$244,366.28
		$31,862,611.71	.....	$31,879,304.62						
	Shop Tools	24,854.71	.....	24,854.71						
	Total Fixed Assets	$31,887,466.42	$16,692.91	$31,904,159.33						

	Total Provision For Depreciation	Less Charges for Assets Retired		Balance	
		Depreciation	Deferred Credit	Reserve for Depreciation	Deferred Credit
Per Valuation as of September 29, 1944	.....	.....	.....	$22,587,610.00	$2,812,409.03
Depreciation to June 30, 1946	$1,151,372.30	.....	.....	1,594,431.32	*443,059.02*
Retirements to June 30, 1946	.....	$609,121.86	$45,910.74	*609,121.86*	*45,910.74*
Audit Adjustments to June 30, 1945	*1,051.48*	.....	.....	.....	*24,767.00*
Per Report—June 30, 1946	$1,150,320.82	$609,121.86	$45,910.74	$23,572,919.46	$2,298,672.27
Audit Adjustments as of June 30, 1946	.....	.....	.....	3,041.13	*804.83*
Adjusted Balance as of June 30, 1946	$1,150,320.82	$609,121.86	$45,910.74	$23,575,960.59	$2,297,867.44
Depreciation Year Ended June 30, 1947	638,651.28	.....	.....	883,017.56	*244,366.28*
Retirements July 1, 1946, to June 30, 1947	.....	990,087.85	30,635.07	*990,087.85*	*30,635.07*
	$1,788,972.10	$1,599,209.71	$76,545.81	$23,468,890.30	$2,022,866.09
	To Schedule II			Exhibit "A"	Exhibit "A"

Italic figures denote loss and deficiency.

MUNICIPAL RAILWAY OF SAN FRANCISCO
FIELD OPERATING STATEMENT
Fiscal Year Ended June 30, 1947

	Electric Street Car	Motor Coach	Trolley Coach	Cable Car	Total
Total Revenue	$14,300,554.14	$3,808,309.93	$424,498.99	$505,392.47	$19,038,755.53
Operating Expenses	$11,779,047.64	$3,886,168.31	$309,701.90	$551,600.41	$16,526,518.26
Depreciation	811,994.66	222,262.19	19,553.24	20,027.49	1,073,837.58
Accident Reserve	1,418,660.58	377,821.20	42,201.76	50,318.13	1,889,001.67
Interest	40,317.50	58,426.88	10,725.38	8,334.60	117,804.36
Non-Operating Income or Expense	*52,482.00*	* 257.03	.....	852.60	*51,372.37*
Taxes	14,116.15	.....	.....	.....	14,116.15
Total Net Deductions	$14,011,654.53	$4,544,935.61	$382,182.28	$631,133.23	$19,569,905.65
Net Income	$288,899.61	*$736,625.68*	$42,316.71	*$125,740.76*	*$531,150.12*
Bond Redemption	100,000.00	.....	.....	.....	100,000.00
Surplus or Deficit*	$188,899.61	*$736,625.68*	$42,316.71	*$125,740.76*	*$631,150.12*

*Payment of $252,564.10 on Market Street Railway purchase made during the year not included.

Italic figures denote loss and deficiency.

MUNICIPAL RAILWAY OF SAN FRANCISCO
PLANT INVESTMENT BY TYPES OF SERVICE
As of June 30, 1947

	Total Cost	Accrued Depreciation	Excess Value Over Purchase Cost Market Street Extension	Present Value
Electric Street Cars—Municipal Railway	$11,083,604.28	$8,017,835.11	.....	$3,065,769.17
Electric Street Cars—Municipal Railway	26,991,894.90	20,722,478.51	$1,727,263.14	4,542,153.25
Electric Street Cars—Total	$38,075,499.18	$28,740,313.62	$1,727,263.14	$7,607,922.42
Cable Cars—Municipal Railway	$72.52	$72.52	.....	.....
Cable Cars—Market Street Extension	1,973,445.46	1,664,996.72	$86,326.64	$222,122.10
Cable Cars—Total	$1,973,517.98	$1,665,069.24	$86,326.64	$222,122.10
Motor Coaches—Municipal Railway	$1,918,031.11	$495,476.87	.....	$1,422,554.24
Motor Coaches—Market Street Extension	1,593,569.56	963,214.76	$173,950.97	456,403.83
Motor Coaches—Total	$3,511,600.67	$1,458,691.63	$173,950.97	$1,878,958.07
Trolley Coaches—Municipal Railway	$632,226.19	$79,292.12	.....	$552,934.07
Trolley Coaches—Market Street Extension	244,462.00	118,200.31	$35,325.34	90,936.35
Trolley Coaches—Total	$876,688.19	$197,492.43	$35,325.34	$643,870.42
Total Plant Investment: Municipal Railway	$13,633,934.10	$8,592,676.62	.....	$5,041,257.48
Market Street Extension	30,803,371.92	23,468,890.30	$2,022,866.09	5,311,615.53
*Total Plant Investment—Consolidated System	$44,437,306.02	$32,061,566.92	$2,022,866.09	$10,352,873.01
*As per Balance Sheet—Exhibit "A"	$44,054,886.92	$32,061,566.92	$2,022,866.09	$9,970,453.91
From Work in Progress (Facilities in Use)	382,419.10	.....	.....	382,419.10
Total As Above	$44,437,306.02	$32,061,566.92	$2,022,866.09	$10,352,873.01

MUNICIPAL RAILWAY OF SAN FRANCISCO
SUMMARY OF INCOME AND OUTLAY
December 28, 1912 to June 30, 1947

INCOME		
Passenger and other Revenue	$151,910,650.62	
Subsidy from Harbor Commission	70,229.71	
Contributed	2,282,480.86	
Interest on Bonds and Daily Balances	699,382.74	
Miscellaneous Credits—Profit and Loss	323,189.11	
Cash Received from Sale of Original Bonds Issued	5,481,000.00	
Total Income and Credits		$160,766,933.04
OUTLAY		
Operating Expenses	$120,347,043.89	
Bond Interest Charges	4,624,434.24	
Injuries and Damages	5,880,825.65	
Miscellaneous Debits—Profit and Loss	153,669.20	
Interest During Acquisition	332,433.21	
Taxes	36,894.71	
Total Expense		$131,375,300.90
Excess of Income over Expenses		$29,391,632.14
Bonds Redeemed		4,881,000.00
Balance after Expenses and Bond Redemption		$24,510.632.14
Expended for Construction Extensions, Betterments, Replacements and Renewals and Road and Equipment Retired	$23,018,446.27	
Less: Unpaid Balance of Market Street Railway Purchase, June 30, 1947	1,934.347.46	21.084.098.81
Balance, Net Cash, Receivables, Stores, etc., on hand exclusive of balance due on Market Street Railway Purchase		$3.426.533.33
SOURCE OF FUNDS		
From Bond Sales	$5,481,000.00	
From Reconstruction and Replacement Fund	3,973,421.15	
From Earnings and Contributions	14,097,486.28	
Total Road and Equipment Purchased	$23,551,907.43	
Deduct Retirements	2,446,250.93	
Total Road and Equipment on hand and in Use (Based on Cost)	$21,105.656.50	
Add Portion of Retirements Charged to Reserve Less Deferred Credit Portion	1,912,789.77	
	$23,018,446.27	

(Continued on page 328)

SUMMARY OF INCOME AND OUTLAY—(Continued)

CASH		
Cash, Revolving Fund, Net	$15,000.00	
*Cash, Operating Fund, Net	1,995,627.78	
†Cash, Reconstruction and Replacement Fund, Net	1,363,332.10	
Cash, Bond Redemption Fund, Net	.....	
Cash, Bond Interest Fund, Net	.....	
Cash, Surplus Fund	3,148.98	
Cash, Reserve for Land Purchase	.....	
‡Cash, Market Street Extension	847,999.09	
Total Net Cash		$4,225,107.95
ACCOUNTS RECEIVABLE		
Due from City and County of San Francisco	$6,288.40	
Miscellaneous Accounts Receivable	33,612.58	
Total Accounts Receivable		39,900.98
STORES		
Total Stores	$834,071.59	
Less Reserve for Obsolescence in Inventory	25,161.57	
Total Net Stores		808,910.02
DEFERRED CHARGES		
Prepaid Expenses and Unadjusted Debits		14,815.42
Total Cash, Receivables, Stores, etc.		$5,088,734.37
LIABILITIES		
Accounts Payable, Payrolls Payable, Interfund, etc., exclusive of Balance due on Market Street Railway Purchase	$1,466,247.40	
Accrued Interest, Not Due	2,500.00	
Reserve for Token Liability	179,305.42	
Suspense Credits	13,417.31	
Miscellaneous Deposits	730.91	
Total Liabilities		1,662,201.04
Net Free Assets, exclusive of Balance Due on Market Street Railway Purchase		$3,426,533.33

*Due to Reconstruction and Replacement Fund from Operating Fund for cash transferred for purchase of stores $65,031.34

†Due to Operating Fund from Reconstruction and Replacement Fund for Labor and Material on Reconstruction and Replacement Fund Replacement Jobs 532,860.10

‡Due Market Street Extension Fund from Operating Fund for Cash Transferred to Cover Anticipated Expenditures by Operating Fund 1,000,000.00

MUNICIPAL RAILWAY OF SAN FRANCISCO
STATEMENT OF TROLLEY COACH OPERATIONS
Fiscal Year July 1, 1946 to June 30, 1947

	RECEIPTS			
	Fares	$416,291.54		
	Fares United States Postal Employees	810.00		
	REVENUE CREDITS			
	School Tickets	4.916.14		
	Total Passenger Revenue		$422,017.68	
	MISCELLANEOUS REVENUE			
	Advertising		2,444.01	
	Reimbursement for Damaged Trolley Coaches		10.95	
	Refund on Excess Liability Accident Insurance		26.35	
	Total Revenue			$424,498.99
	OPERATING EXPENSES			
	GROUP I—Way and Structures			
T1	Superintendence and Engineering, T.C.	$1,352.82		
T16	Crossings, Fences and Signs, T.C.	161.00		
T17	Signals and Interlocking Systems, T.C.	5.62		
T20	Poles and Fixtures, T.C.	23.35		
T22A	Overhead Feeders, T.C.	6.56		
T22D	Overhead Trolleys, T.C.	9,433.01		
T24D	Trolley Coach Shops	77.05		
T24F	Stations, Waiting Rooms and Platforms, T.C.	24.35		
	Total—Group I		$11,083.76	
	GROUP II—Equipment			
T29	Superintendence of Equipment. T.C.	$903.59		
T30	Miscellaneous Equipment Repairs, T.C.	2,634.26		
T30A	Painting Trolley Coaches	3,173.47		
T30B	Bodies, Labor, and Material, T.C.	4,621.41		
T30C	Axles, Wheels, and Springs, Labor and Material, T.C	5,732.77		
T30D	Tires and Tubes, Including Repairs, T.C.	12,841.90		
T30E	Brakes, Labor and Material, T.C.	1,661.65		
T33	Electrical Propulsion Equipment, T.C.	4,152.83		
T36	Repairs to T.C. Shop Equipment	28.88		
T37	Trolley Coach Shop Expenses	146.19		
T41	Store Expense Clearing, T.C.	187.35		
	Total—Group II		36,084.30	
	GROUP III—Power			
T52	Power Plant Employees	$5,372.88		
T59	Power for Operation, T.C.	29,954.03		
	Total—Group III		35,326.91	
	GROUP IV—Conducting Transportation			
T63	Superintendence of Transportation, T.C.	$29,060.11		
T64	Trolley Coach Operators	139,025.80		
T66	Miscellaneous Car Service Employees, T.C.	791.01		
T67B	Oils and Lubricants, T.C.	410.04		
T67C	Special Agents and Fare Registers, T.C.	528.92		
T67D	Incandescent Lamps, T.C.	9.00		
T67E	Cleaning Materials and Misc. Supplies, T.C.	112.76		
T69	Station Expenses, T.C.	534.50		
T70	Labor: Cleaning, Washing, Greasing and Servicing, T.C.	13,335.97		
T73	Operation of Telephone and Telegraph Lines, T.C.	1,528.15		
T78	Miscellaneous Transportation Expenses	476.55		
	Total—Group IV		185,812.81	
	GROUP VI—General and Miscellaneous			
T83	Salaries and Expenses of General Officers, T.C.	$2,130.49		
T84	Salaries and Expenses of General Office Clerks, T.C.	12,360.55		
T85	General Office Supplies and Expenses, T.C.	463.86		
T88	Pension Costs, T.C.	9,950.01		
T88B	Sick Leave, T.C.	2,225.96		

(Continued on page 330)

STATEMENT OF TROLLEY COACH OPERATIONS—(Continued)

T88D	Sick Leave, Medical Fees, T.C.	112.74		
T88F	Military Leave, Members' Contributions, T.C.	*44.37*		
T89	Miscellaneous General Expenses, T.C.	949.78		
T92D	Compensation—Injuries and Damages, Employees	1,698.87		
T93	Fire Insurance, T.C.	697.08		
T94	Stationery and Printing	1,024.72		
T94A	Tickets and Transfers	1,513.13		
T95	Store Expense	2,725.25		
T96	Fuel and Servicing Auto Service Equipment, T.C.	305.10		
T98A	Shop, Office and Equipment Use	95.90		
T98C	Motor Coach Use by Trolley Coach Line	5,185.05		
	Total—Group VI		41,394.12	
	Total Operating Expense			309,701.90
Operating Profit				$114,797.09
	RESERVES AND FIXED CHARGES			
Provision for Accidents		$42,201.76		
Provision for Depreciation		19,553.24		
Interest on Investment		10,725.38		
	Total Reserves and Fixed Charges			72,480.38
	Net Profit			$42,316.71
	Average Net Profit Per Day			$115.94

Italic figures denote loss and deficiency.

Group		Trolley Coach Miles 886,008 Itemized Cost Per Mile	Trolley Coach Hours 93,557 Itemized Cost Per Hour
I	Way and Structures	.01251	.11847
II	Equipment	.04073	.38569
III	Power	.03987	.37760
IV	Conducting Transportation	.20972	1.98609
VI	General and Miscellaneous	.04672	.44245
	Total Operating Expense	.34955	3.31030
Provision for Accidents		.04763	.45108
Provision for Depreciation		.02207	.20900
Interest on Investment		.01210	.11464
	Total Reserve and Fixed Charges	.08180	.77472
	Total Expense	.43135	4.08502
Passenger Revenue		.47631	4.51081
Advertising and Miscellaneous Revenue		.00280	.02652
	Total Revenue	.47911	4.53733
	Net Profit	.04776	.45231

Charges to Accident Reserve, July 1, 1946 to June 30, 1947:	
Proportion Salary Expense—Claims Department	$7,983.21
Accident Claims Paid	14,475.86
Excess Liability Accident Insurance	795.14
Total	$23,254.21

PASSENGERS CARRIED

Cash Fares (Fares and Tokens (10c-8⅓c)	4,847,953
School Tickets (3⅓c)	157,316
Local Transfers	1,980,160
Foreign Transfers	1,803
Total	6,987,232

MUNICIPAL RAILWAY OF SAN FRANCISCO
STATEMENT OF MOTOR COACH OPERATIONS

Fiscal Year July 1, 1946, to June 30, 1947

	RECEIPTS		
Fares		$3,709,101.94	
Fares United States Postal Employees		7,806.78	
Chartered Buses		10,851.32	
	REVENUE CREDITS		
School Tickets		50,452.00	
	Total Passenger Revenue		$3,778,212.04
	MISCELLANEOUS REVENUE		
Advertising			26,180.56
Reimbursement for Damaged Coaches			3,607.59
Refund on Excess Liability Accident Insurance			309.74
	Total Revenue		$3,808,309.93
	OPERATING EXPENSES		
	GROUP I—Way and Structures		
B1	Superintendence and Engineering, M.C.	$15,834.30	
B16	Crossings, Fences and Signs, M.C.	569.95	
B18	Telephone and Telegraph Lines, M.C.	24.50	
B24D	Motor Coach Garage	6,193.00	
B24E	Repairs to General Office, M.C.	287.39	
	Total—Group I		22,909.14
	GROUP II—Equipment		
B29	Superintendence of Equipment, M.C.	$10,585.37	
B36	Garage Equipment, Machinery and Tools, M.C.	6,494.27	
B37	Garage Expenses, M.C.	7,365.46	
B39	Miscellaneous Equipment Repairs, M.C.	2,889.94	
B39A	Motor Coach Engines	296,921.47	
B39B	Motor Coach Painting	12,405.29	
B39C	Motor Coach Chassis	67,338.88	
B39D	Motor Coach Tires and Tubes	122,472.69	
B39E	Motor Coach Bodies	108,492.95	
B39G	Motor Coach Transmissions	57,769.73	
B39H	Motor Coach Brakes	54,877.23	
B41	Store Expense Clearing, M.C.	2,039.28	
	Total—Group II		749,152.56

(Continued on page 332)

STATEMENT OF MOTOR COACH OPERATIONS—(Continued)

	GROUP III—Power		
B59A	Power for Lighting Carbarns, M.C.	$677.29	
	Total—Group III		677.29
	GROUP IV—Conducting Transportation		
B63	Superintendence of Transportation, M.C.	$342,057.12	
B64	Motor Coach Operators	1,581,578.77	
B67B	Lubricants and Waste, M.C.	29,125.15	
B67C	Special Agents and Fare Registers, M.C.	7,123.15	
B67E	Cleaning Materials and Misc. Supplies, M.C.	8,078.05	
B68A	War Emergency Expenses, M.C. System	619.63	
B69	Station Expense	705.50	
B70	Labor: Cleaning, Washing, Greasing, Servicing, M.C.	297,796.74	
B71	Building Expenses and Services, M.C.	5,678.79	
B73	Operation of Telephone and Telegraph Lines, M.C.	17,863.06	
B78	Miscellaneous Transportation Expenses, M.C.	21,684.34	
B78A	Gasoline, Motor Coaches	355,098.19	
	Total—Group IV		2,667,408.49
	GROUP VI—General and Miscellaneous		
B83	Salaries and Expenses of General Officers, M.C.	$24,814.44	
B84	Salaries and Expenses of General Office Clerks, M.C.	145,029.23	
B85	General Office Supplies and Expenses, M.C.	5,463.22	
B88	Pension Costs, Motor Coaches	109,759.30	
B88B	Sick Leave, M.C. Employees	43,571.73	
B88D	Sick Leave, Medical Fees	1,231.16	
B88F	Military Leave, Members' Contributions, M.C.	*671.99*	
B89	Miscellaneous General Expenses, M.C.	11,174.56	
B92D	Compensation—Injuries and Damages, Employees, M.C.	18,375.90	
B93	Fire Insurance, Motor Coaches	2,913.93	
B94	Stationery and Printing	11,789.79	
B94A	Tickets and Transfers, M.C.	17,435.94	
B95	Store Expense	31,972.84	
B96	Fuel and Servicing Auto Service Equipment, M.C.	3,596.67	
B98	Rent of Equipment—Service Truck 9,600 hrs. @ 60c	5,760.00	
B98A	Garage, Shop, Office, and Equipment Rental	1,125.82	
B98B	Rent of Motor Coaches	17,863.34	
B98C	M. C. Use by Trolley Coach Line: Credit	*5,185.05*	
	Total—Group VI		446,020.83
	Total Operating Expense		3,886,168.31
	Operating Loss		*$77,858.38*

Italic figures denote loss and deficiency.

RESERVES AND FIXED CHARGES

Provision for Accidents	$377,821.20	
Provision for Depreciation	222,262.19	
Interest on Investment	58,426.88	
Total Reserves and Fixed Charges		658,510.27
Net Loss Before Retirement Charges		*736,368.65*
Loss on Equipment Retired		257.03
Net Loss		*736,625.68*
Average Net Loss Per Day		*2,018.15*

Group		Motor Coach Miles 10,412,688 Itemized Cost Per Mile	Motor Coach Hours 1,007,625 Itemized Cost Per Hour
I	Way and Structures	.00220	.02274
II	Equipment	.07195	.74348
III	Power	.00006	.00067
IV	Conducting Transportation	.25617	2.64722
VI	General and Miscellaneous	.04283	.44265
	Total Operating Expense	.37321	3.85676
Provision for Accidents		.03629	.37496
Provision for Depreciation		.02135	.22058
Interest on Investment		.00561	.05799
	Total Reserves and Fixed Charges	.06325	.65353
	Loss on Retirements	.00002	.00025
	Total Expense	.43648	4.51054
Passenger Revenue		.36285	3.74962
Advertising and Miscellaneous Revenue		.00289	.02987
	Total Revenue	.36574	3.77949
	Net Loss	*.07074*	*.73105*

Charges to Accident Reserve, July 1, 1946, to June 30, 1947: Proportion Salary Expense—Claims Department	$93,660.35
Accident Claims Paid	120,166.19
Excess Liability Accident Insurance	9,174.29
Total	$223,000.83

PASSENGERS CARRIED

Cash Fares (Fares and Tokens) (10c-8⅓c)	43,160,370
School Tickets (3⅛c)	1,614,464
Chartered Coaches	131,972
Local Transfers	27,993,785
Foreign Transfers	251,553
Total	73,152,144

Italic figures denote loss and deficiency.

MUNICIPAL RAILWAY OF SAN FRANCISCO
STATEMENT OF CABLE CAR OPERATIONS

Fiscal Year July 1, 1946, to June 30, 1947

	RECEIPTS		
	Fares	$495,852.03	
	Fares United States Postal Employees	896.22	
	REVENUE CREDITS		
	School Tickets	6,433.16	
	Total Passenger Revenue		$503,181.41
	MISCELLANEOUS REVENUES		
	Advertising		2,173.91
	Refund Excess Liability Accident Insurance		13.63
	Reimbursement for Damaged Cable Cars		23.52
	Total Revenues		$505,392.47
	OPERATING EXPENSES		
	GROUP I—Way and Structures		
C1	Superintendence of Way and Structures, C.C.	$693.97	
C4	Rails, C.C.	118.83	
C5	Rail Fastenings and Joints, C.C.	868.41	
C6	Special Work, C.C.	16.65	
C7	Underground Construction, C.C.	2,209.96	
C8	Track and Roadway Labor, C.C.	41,159.39	
C9	Miscellaneous Track and Roadway Expenses, C.C.	4.35	
C10	Paving, C.C.	4,307.89	
C11	Cleaning and Sanding Tracks, C.C.	31,502.26	
C16	Crossings, Fences and Signs, C.C.	175.00	
C17	Signal and Interlocking Systems, C.C.	1,520.93	
C24C	Car Houses, C.C.	706.83	
C24D	Shops, C.C.	146.31	
C24E	General Office, C.C.	19.50	
C24H	Miscellaneous Buildings and Structures	10.50	
	Total—Group I		$83,460.78
	GROUP II—Equipment		
C29	Superintendence of Equipment, C.C.	$464.56	
C30	Passenger and Combination Cars, C.C.	29,319.28	
C33	Grips and Dies, C.C.	13,736.90	
C36	Shop Equipment, Machinery and Tools, C.C.	636.12	
C37	Shop Expenses, C.C.	1,039.10	
C41	Store Expense, Clearing, C.C.	167.09	
	Total—Group II		45,363.05

	GROUP III—Power		
C45	Superintendence of Power, C.C.	$5,472.57	
C46	Power Plant Buildings, Fixtures and Grounds	13.24	
C47-1	Power Plant Equipment, C.C.	739.86	
C47-2	Power Plant Equipment, Cables	43,393.83	
C52	Power Plant Employees, C.C.	31,797.49	
C56	Miscellaneous Power Plant Supplies and Expenses, C.C.	651.03	
C59	Power Purchased for Operation, C.C.	14,745.52	
	Total—Group III		96,813.54
	GROUP IV—Conducting Transportation		
C63	Superintendence of Transportation, C.C.	$15,671.10	
C64	Cable Car Operators, C.C.	248,796.69	
C66	Miscellaneous Car Service Employees, C.C.	592.47	
C67B	Lubricants and Waste, C.C.	302.49	
C67C	Special Agents and Fare Registers	305.08	
C67D	Incandescent Lamps, C.C.	5.40	
C67E	Cleaning Materials and Misc. Supplies, C.C.	600.16	
C69	Station Expenses, C.C.	150.00	
C70	Labor: Cleaning, Washing, Greasing and Servicing, C.C.	17,135.24	
C71	Building Expenses and Services, C.C.	350.39	
C72	Operation of Signal and Interlocking Apparatus, C.C.	8,293.34	
C73	Operation of Telephone and Telegraph Lines, C.C.	778.08	
C78	Miscellaneous Transportation Expenses, C.C.	65.29	
	Total—Group IV		293,045.73
	GROUP VI—General and Miscellaneous		
C83	Salaries and Expenses—General Officers, C.C.	$1,093.17	
C84	Salaries and Expenses—General Office Clerks	6,385.85	
C85	General Office Supplies and Expenses	232.44	
C88	Pension Costs—C.C.	16,547.22	
C88B	Sick Leave, C.C.	1,612.81	
C88D	Sick Leave, Medical Fees, C.C.	152.45	
C88F	Military Leave, Members' Contributions, C.C.	*138.94*	
C89	Miscellaneous General Expenses	496.76	
C92D	Compensation, Injuries and Damages, Employees, C.C.	3,045.57	
C93	Fire Insurance, C.C.	650.29	
C94	Stationery and Printing, C.C.	510.68	
C94A	Tickets and Transfers, C.C.	776.21	
C95	Store Expenses, C.C.	1,396.09	
C96	Fuel and Servicing Auto Service Equipment, C.C.	156.71	
	Total—Group VI		32,917.31
	Total Operating Expense		$551,600.41
	Operating Loss		*$46,207.94*

Italic figures denote loss and deficiency.

(Continued on page 336)

STATEMENT OF CABLE CAR OPERATIONS—(Continued)

RESERVES AND FIXED CHARGES

Provision for Accidents	$50,318.13	
Provision for Depreciation	20,027.49	
Interest on Investment	8,334.60	
Total Reserves and Fixed Charges		78,680.22
Net Loss Before Retirement Charges		*$124,888.16*
Loss on Equipment Retired		852.60
Net Loss		*$125,740.76*
Average Net Loss Per Day		*344.50*

Group		Cable Car Miles 458,162 Itemized Cost Per Mile	Cable Car Hours 84,034 Itemized Cost Per Hour
I	Way and Structures	.18216	.99318
II	Equipment	.09901	.53982
III	Power	.21131	1.15207
IV	Conducting Transportation	.63961	3.48723
VI	General and Miscellaneous	.07185	.39171
	Total Operating Expense	1.20394	6.56401
Provision for Accidents		.10983	.59878
Provision for Depreciation		.04371	.23833
Interest on Investment		.01819	.09918
	Total Reserves and Fixed Charges	.17173	.93629
	Loss on Retirements	.00186	.01015
	Total Expense	1.37753	7.51045
Passenger Revenue		1.09826	5.98783
Advertising and Miscellaneous Revenue		.00483	.02631
	Total Revenue	1.10309	6.01414
	Net Loss	*.27444*	*1.49631*

Charges to Accident Reserve, July 1, 1946 to June 30, 1947:

Proportion Salary Expense—Claims Department	$4,104.70
Accident Claims Paid	92,628.10
Excess Liability Accident Insurance	394.90
Total	$97,127.70

PASSENGERS CARRIED

Cash Fares (Fares and Tokens) (10c-8⅓c)	5,720,353
School Tickets (3⅛c)	205,861
Local Transfers	3,104,560
Foreign Transfers	208,270
Total	9,239,044

Italic figures denote loss and deficiency.

MUNICIPAL RAILWAY OF SAN FRANCISCO
CAR AND COACH HOURS AND MILES OPERATED
CASH FARES AND TOKENS REGISTERED
Fiscal Year 1946-1947

Lines		Car and Coach Hours	Car and Coach Miles	Cash Fares and Tokens Registered	Cash Fares and Tokens Registered Per Car or Coach Hour	Cash Fares and Tokens Registered Per Car or Coach Mile
ELECTRIC CARS						
B	Geary Street	119,541	1,119,225	$996,961.00	$8.34	$.89
C	California Street	92,654	845,777	688,054.64	7.43	.81
D	Van Ness Avenue	68,168	531,336	511,888.00	7.51	.96
*E	Union Street	47,212	369,339	190,663.71	4.04	.52
F	Stockton Street	87,527	703,442	774,005.05	8.84	1.10
H	Potrero Avenue	115,551	893,976	682,010.14	5.90	.76
J	Church Street	88,600	692,160	624,618.95	7.05	.90
J	Church Street (Shuttle)	5,274	42,304	7,713.11	1.46	.18
K	Market Street	111,619	1,110,406	699,375.60	6.27	.63
L	Taraval Street	131,412	1,276,712	846,416.07	6.44	.66
M	Ocean View	34,657	350,839	183,074.41	5.28	.52
N	Judah Street	136,090	1,241,061	957,545.20	7.04	.77
1	Sutter-California	56,825	522,492	390,567.92	6.87	.75
2	Sutter-Clement	60,391	568,014	387,471.05	6.42	.68
3	Sutter-Jackson	28,005	186,617	219,428.35	7.84	1.18
4	Sutter-Sacramento	26,335	202,753	188,995.49	7.18	.93
5	McAllister	82,145	756,718	570,037.91	6.94	.75
6	Haight-Masonic	34,635	271,094	211,600.93	6.11	.78
7	Haight-Ocean	112,822	1,022,145	761,551.40	6.75	.75
8	Market	18,192	127,449	130,052.16	7.15	1.02
9	Valencia	58,725	474,099	363,376.96	6.19	.77
11	Mission-24th	39,646	313,820	269,214.41	6.79	.86
12	Ingleside	5,614	54,906	27,632.83	4.92	.50
14	Mission	150,033	1,385,990	1,101,518.11	7.34	.79
*16	3rd-Kearny	9,182	61,147	55,153.26	6.01	.90
20	Ellis-O'Farrell	28,891	224,021	224,913.30	7.78	1.00
21	Hayes	50,739	420,496	327,511.95	6.45	.78
22	Fillmore	108,238	738,769	615,489.05	5.69	.83
25	San Bruno	39,360	333,400	200,052.54	5.08	.60
27	Bryant	3,361	25,379	18,913.73	5.63	.75
31	Balboa	67,370	625,698	403,479.70	5.99	.64
40	San Mateo	59,920	814,857	303,241.22	5.06	.37
	Chartered Cars	.....	.....	539.14	...	...
	Total—Electric Cars	2,078,734	18,306,441	$13,933,067.29	$6.70	$.76
MOTOR COACH ROUTES						
1	Park	61,773	708,134	$207,655.40	$3.36	$.29
2	Sunset Express	39,950	444,469	133,060.95	3.33	.30
3	Park-Mission	62,840	859,504	173,838.73	2.77	.20
*3M	Jackson	6,917	58,971	11,341.20	1.64	.19
4	Embarcadero	26,376	240,654	125,321.35	4.75	.52
4M	Sutter-Sacramento	3,997	45,709	7,391.46	1.85	.16
5	Marina	7,530	63,809	25,773.78	3.42	.40
*5M	McAllister	22,337	234,511	82,202.15	3.68	.35
6	Eureka	30,324	274,707	137,812.19	4.54	.50
6M	Haight-Masonic	7,319	76,282	8,786.39	1.20	.12
7	Miraloma	13,321	140,634	21,242.31	1.59	.15
*7	Owl	242	3,214	332.58	1.37	.10
9	Bayshore	8,533	106,304	15,495.59	1.82	.15
*10	Lincoln Way-Cabrillo	2,633	23,779	3,362.79	1.28	.14
11	Telegraph Hill	6,900	45,436	13,381.54	1.94	.29
*11W	Mission	4,210	33,828	12,237.43	2.91	.36
14	Roosevelt	13,822	138,600	33,448.96	2.42	.24
*14	Owl	916	9,602	2,362.22	2.58	.25
*15	Express	3,323	36,327	10,375.97	3.12	.29
15	Kearny-Beach	134,182	1,432,096	671,024.32	5.00	.47
*16	Kearny-Third	29,691	228,948	142,776.02	4.81	.62

(Continued on page 338)

CAR AND COACH HOURS AND MILES OPERATED—(Continued)

Lines		Car and Coach Hours	Car and Coach Miles	Cash Fares and Tokens Registered	Cash Fares and Tokens Registered Per Car or Coach Hour	Cash Fares and Tokens Registered Per Car or Coach Mile
*17	Park-Merced	1,526	17,764	3,626.87	2.38	.20
18	Sloat Blvd.	12,023	142,110	18,025.75	1.50	.13
*18M	Ocean View	7,815	83,657	7,594.24	.97	.09
19	9th and Polk	58,482	513,830	283,650.64	4.85	.55
20	Park-Ellis	18,817	190,277	59,595.89	3.17	.31
*21M	Hayes	14,987	152,763	64,992.36	4.34	.43
*22	Owl	572	5,800	1,183.62	2.07	.20
23	Richland-Monterey	4,101	31,322	5,346.65	1.30	.17
24	Castro-Divisadero	53,674	450,682	246,562.26	4.59	.55
25	San Bruno	16,864	186,781	43,603.64	2.59	.23
26	Guerrero-Daly City	50,856	560,396	186,053.66	3.66	.33
27	Bryant	30,241	318,467	85,544.00	2.83	.27
29	Geneva-Mission-Wilde	13,854	156,042	55,538.03	4.01	.36
*31	Balboa	15,533	162,377	53,515.19	3.45	.33
36	Folsom	19,890	210,395	47,472.12	2.39	.23
42	3rd & Hunters Point	44,663	484,016	272,868.08	6.11	.56
50	Geneva Avenue	18,634	211,011	55,988.56	3.00	.27
*51	Silver Avenue	15,526	176,512	51,583.84	3.32	.29
52	Excelsior	8,896	91,216	27,416.79	3.08	.30
53	Southern Heights	13,239	115,488	33,500.12	2.53	.29
54	Hunters Point	30,668	330,229	77,957.37	2.54	.24
55	Sacramento-Clay	19,077	153,397	67,835.20	3.56	.44
57	Candlestick Cove	5,344	63,161	14,742.89	2.76	.23
60	Powell Cable Emerg. Service	114	1,503	371.72	3.26	.25
70	Hunters Point Ridge Route	19,209	182,604	37,418.76	1.95	.20
*71	San Francisco Jr. College	1,552	13,638	1,084.92	.70	.08
*72	Church St. Shuttle	9,371	71,929	11,615.88	1.24	.16
73M	2nd Mission-Ferry Shuttle Emergency Service	10	90	21.43	2.14	.24
*74	Veterans' Hospital	652	6,122	463.57	.71	.08
75	Legion of Honor	911	6,952	1,135.61	1.25	.16
76	Market Street Shuttle	11	120	40.43	3.68	.34
C	Geary Owl	254	3,025	779.97	3.07	.26
*E	Union	8,925	70,769	25,400.82	2.85	.36
*F	Shuttle	23	225	109.05	4.74	.48
*H	Potrero	3,006	32,037	5,518.49	1.84	.17
2C	Shuttle-Downtown Veterans	244	2,250	706.42	2.90	.31
5C	Shuttle-Crissy Field Veterans.	97	1,275	90.68	.93	.07
A-B	Shrine Special	75	726	19.01	.25	.03
C	Shrine Special	146	1,350	407.59	2.79	.30
	Chartered Coaches	607	4,862	11,711.72	19.29	2.41
	Total—Motor Coaches	1,007,625	10,412,688	$3,700,317.17	$3.67	$.36
TROLLEY COACH ROUTES						
*"E"	Union	4,567	33,706	$18,485.58	$4.05	$.55
"R"	Howard Street	40,757	375,277	212,320.30	5.21	.57
33	18th and Park	48,233	477,025	184,338.75	3.82	.39
	Total—Trolley Coaches	93,557	886,008	$415,144.63	$4.44	$.47
CABLE CARS						
59	Powell-Bay	36,372	189,403	$216,138.45	$5.94	$1.14
60	Powell-Jackson	47,662	268,759	279,156.08	5.86	1.04
	Total—Cable Cars	84,034	458,162	$495,294.53	$5.89	$1.08
Total—Electric Car, Motor Coach, Trolley Coach and Cable Car		3,263,950	30,063,299	$18,543,823.62	$5.68	$.62

*Note: For changes in car and coach lines operated, see detail at end of statement entitled "Recapitulation of Passenger Traffic."

MUNICIPAL RAILWAY OF SAN FRANCISCO

RECEIPTS PER HOUR BY TYPES OF SERVICE

	Fiscal Year 1946-1947			Fiscal Year 1945-1946		
	Amount	Car or Coach Hours	Per Car or Coach Hour	Amount	Car or Coach Hours	Per Car or Coach Hour
STREET CARS		2,078,734			2,237,972	
Cash Fares and Registered Tokens	$13,932,528.15		$6.70	$13,735,878.02		$6.14
Total Passenger Receipts	14,186,605.58		6.82	13,946,713.31		6.23
Total Receipts—All Sources	14,351,926.51		6.90	13,979,891.68		6.25
MOTOR COACHES		1,007,625			808,288	
Cash Fares and Registered Tokens	3,688,605.45		3.66	2,588,318.52		3.20
Total Passenger Receipts	3,778,212.04		3.75	2,616,750.32		3.24
Total Receipts—All Sources	3,808,309.93		3.78	2,639,859.65		3.27
TROLLEY COACHES		93,557			84,395	
Cash Fares and Registered Tokens	415,144.63		4.44	371,436.80		4.40
Total Passenger Receipts	422,017.68		4.51	375,190.31		4.45
Total Receipts—All Sources	424,498.99		4.54	377,358.72		4.47
CABLE CARS		84,034			66,737	
Cash Fares and Registered Tokens	495,294.53		5.89	347,233.43		5.20
Total Passenger Receipts	503,181.41		5.99	351,745.68		5.27
Total Receipts—All Sources	505,392.47		6.01	353,456.53		5.30
ELECTRIC AND CABLE CARS AND MOTOR AND TROLLEY COACHES		3,263,950			3,197,392	
Cash Fares and Registered Tokens	18,531,572.76		5.68	17,042,866.77		5.33
Total Passenger Receipts	18,890,016.71		5.79	17,290,399.62		5.41
Total Receipts—All Sources	19,090,127.90		5.85	17,350,566.58		5.43

MUNICIPAL RAILWAY OF SAN FRANCISCO
RECAPITULATION OF PASSENGER TRAFFIC
ALL LINES

Fiscal Year—July 1, 1946 to June 30, 1947

	Number of Cash Fares	Number of Registered Tokens	Number of Token Tickets Punched	Number of Postal Employees	Number of Chartered Coach Passengers	Excursion Tickets	School Tickets	Non Revenue Transfers	Local Transfers	Total Passengers
ELECTRIC CAR LINES	29,518,444	131,986,571	38,239	341,828	.....	75,634	6,204,679	1,110,647	55,968,602	225,244,644
CABLE CAR LINES	1,202,206	4,506,096	1,481	10,570	.....	.....	205,861	208,270	3,104,560	9,239,044
TROLLEY COACH ROUTES	794,342	4,041,191	1,097	11,323	.....	.....	157,316	1,803	1,980,160	6,987,232
MOTOR COACH ROUTES	7,175,662	35,887,706	10,723	86,279	131,972	.....	1,614,464	251,553	27,993,785	73,152,144
SYSTEM TOTAL	38,690,654	176,421,564	51,540	450,000	131,972	75,634	8,182,320	1,572,273	89,047,107	314,623,064

1946

NOTES

July 1, 2, 3—No service due to strike conditions.
July 23—A. B. C. (Motor Coach Routes) started operation, special 3-day service for Shrine Convention.
July 25, 30, 31—Powell St. Emergency (Motor Coach Route) 3-day service due to cable failure on Powell St.
Aug. 18—18M (Motor Coach Route) started operation.
Aug. 18—11W (Motor Coach Route) started operation
Aug. 18—21 (Motor Coach Route) started operation.
Aug. 18—74 (Motor Coach Route) discontinued operation.
Sept. 30 and Oct. 1, 2, 3, 4—2-C and 5-C (Motor Coach Routes) American Legion Convention service.
Oct. 6—No. 16 (Electric Car Line) discontinued operation.
Oct. 6—No. 3M (Motor Coach Route) started operation.
Oct. 6—No. 31 (Motor Coach Route) started operation.
Oct. 7—No. 16 (Motor Coach Route) started operation.
Oct. 7—No. 15 Express (Motor Coach Route) started operation.
Oct. 22—No. 72 (Motor Coach Route) discontinued operation.
Oct. 18 and 25—No. 60 (Motor Coach Route) emergency service Jackson cable.
Nov. 17—No. 5M (Motor Coach Route) started operation.
Nov. 17—No. 51 (Motor Coach Route) started operation.
Dec. 5—H (Motor Coach Route) started operation.
Dec. 15—No. 71 (Motor Coach Route) discontinued operation.

1947

Feb. 23—No. 10 (Motor Coach Route) started operation.
March 10—E (Motor Coach Route) started operation.
March 24—No. 17 (Motor Coach Route) started operation.
April 21—E (Trolley Coach Route) started operation.
May 11—No. 7 (Motor Coach Route) started operation.
May 11—No. 14 (Motor Coach Route) started operation.
May 11—No. 22 (Motor Coach Route) started operation.
June 7—E line (Electric Car Line) last day operated.
June 15—F (Motor Coach Route) emergency service, one day only.

		Number of Cash Fares	Number of Registered Tokens	Number of Token Tickets Punched	Number of Postal Employees	Number of Chartered Coach Passengers	Excursion Tickets	School Tickets	Non Revenue Transfers	Local Transfers	Total Passengers
ELECTRIC CAR LINES	B	2,112,811	9,438,167	2,679	20.249	.....	.....	617,745	75,810	3,161,933	15,429,394
	C	1,365,317	6,645,954	1,763	11,482	.....	.....	280,559	72,343	2,484,696	10,862,114
	D	1,062,757	4,870,439	1,309	11,851	.....	.....	158,891	84,395	1,451,926	7,641,568
	E	316,846	1,909,865	390	4,388	.....	.....	46,150	48,099	937,343	3,263,081
	F	1,465,361	7,537,211	2,150	14,270	.....	.....	332,971	70,942	3,323,717	12,746,622
	H	1,271,498	6,673,895	2,060	13,169	.....	.....	275,739	161,662	5,167,686	13,565,709
	J	1,262,375	6,000,341	1,673	18,529	.....	.....	225,439	29,811	2,402,170	9,940,338
	Shuttle J	12,387	78,105	.....	123	.....	.....	2,463	.....	82,529	175,607
	K	1,485,742	6,623,912	1,937	18,744	.....	.....	323,111	27,574	2,816,848	11,297,868
	L	1,662,728	8,179,685	2,297	24,571	.....	.....	310,320	32,913	3,097,494	13,310,008
	M	341,868	1,788,362	554	6,140	.....	.....	77,165	8,564	665,991	2,888,644
	N	1,827,568	9,321,410	2,636	24,697	.....	.....	435,515	26,729	3,135,918	14,774,473
	1	691,240	3,877,069	1,110	8,282	.....	.....	165,983	89,096	1,579,036	6,411,816
	2	702,141	3,822,799	1,034	7,732	.....	.....	159,793	107,891	1,532,908	6,334,298
	3	423,185	2,127,237	597	5,191	.....	.....	85,316	35,435	658,794	3,335,755
	4	331,673	1,871,537	602	6,699	.....	.....	76,884	27,291	622,192	2,936,878
	5	1,055,590	5,589,845	1,326	10,554	.....	.....	221,451	22,003	2,059,298	8,960,067
	6	381,473	2,086,661	694	5,579	.....	.....	86,035	4,384	820,053	3,384,879
	7	1,513,054	7,345,557	2,113	16,659	.....	.....	318,947	19,833	2,704,520	11,920,683
	8	217,326	1,308,699	606	3,903	.....	.....	65,746	5,186	796,777	2,398,243
	9	832,908	3,363,688	998	11,155	.....	.....	144,694	.....	1,339,466	5,692,909
	11	582,568	2,532,825	820	12,187	.....	.....	105,177	.....	964,823	4,198,400
	12	62,697	256,512	.....	.....	.....	.....	.....	.....	112,423	431,632
	14	2,669,662	10,027,710	3,137	35,098	.....	.....	478,936	.....	3,915,358	17,129,901
	16	119,002	519,292	.....	88	.....	.....	8,407	8,337	276,078	931,204
	20	463,978	2,148,826	673	4,169	.....	.....	87,934	8,699	844,134	3,558,413
	21	592,756	3,228,395	825	6,882	.....	.....	122,324	12,459	1,209,196	5,172,837
	22	1,083,913	6,107,555	1,830	16,465	.....	.....	266,063	115,056	4,916,276	12,507,158
	25	422,651	1,896,357	495	9,745	.....	.....	72,573	.....	1,087,722	3,489,543
	27	25,334	197,297	67	303	.....	.....	8,540	.....	67,324	298,865
	31	667,754	4,050,391	1,044	7,498	.....	.....	155,630	16,135	1,243,928	6,142,380
	40	2,492,281	560,973	820	5,426	.....	75,634	488,178	.....	490,045	4,113,357
Total		29,518,444	131,986,571	38,239	341,828	.....	75,634	6,204,679	1,110,647	55,968,602	225,244,644

(Continued on page 342)

RECAPITULATION OF PASSENGER TRAFFIC—(Continued)

		Number of Cash Fares	Number of Registered Tokens	Number of Token Tickets Punched	Number of Postal Employees	Number of Chartered Coach Passengers	Excursion Tickets	School Tickets	Non Revenue Transfers	Local Transfers	Total Passengers
CABLE CAR LINES	59	594,037	1,882,356	626	4,819	.....	.....	88,400	97,966	1,436,447	4,104,651
	60	608,169	2,623,740	855	5,751	.....	.....	117,461	110,304	1,668,113	5,134,393
Total		1,202,206	4,506,096	1,481	10,570	.....	.....	205,861	208,270	3,104,560	9,239,044
TROLLEY COACH ROUTES	R	422,093	2,045,630	619	5,471	.....	.....	65,794	.....	670,517	3,210,124
	33	348,599	1,801,624	478	4,507	.....	.....	73,859	.....	1,194,027	3,423,094
	E	23,650	193,937	.....	1,345	.....	.....	17,663	1,803	115,616	354,014
Total		794,342	4,041,191	1,097	11,323	.....	.....	157,316	1,803	1,980,160	6,987,232
MOTOR COACH ROUTES	1	339,099	2,097,014	633	4,659	.....	.....	134,348	.....	1,911,552	4,487,305
	2	201,791	1,361,930	484	3,361	.....	.....	48,957	922	767,015	2,384,460
	3	318,692	1,711,684	463	4,231	.....	.....	81,289	.....	1,713,517	3,829,876
	3M	16,959	116,552	31	190	.....	.....	6,177	4,275	117,868	262,052
	4	314,389	1,130,766	333	2,676	.....	.....	2,292	6,910	771,536	2,228,902
	4M	11,398	75,425	9	90	.....	.....	3,158	963	40,814	131,857
	5	47,390	255,145	70	713	.....	.....	10,252	861	288,824	603,255
	5M	151,792	809,770	212	903	.....	.....	33,620	4,956	563,469	1,564,722
	6	272,385	1,333,074	378	5,872	.....	.....	57,841	.....	1,054,762	2,724,312
	6M	13,174	90,059	15	115	.....	.....	4,394	.....	124,988	232,745
	7	33,202	215,435	71	967	.....	.....	20,460	.....	380,812	650,947
	7M	615	3,255	.....	.....	.....	.....	.....	.....	3,769	7,639
	9	28,691	151,723	44	248	.....	.....	5,849	.....	209,961	396,516
	10	7,132	32,107	19	44	.....	.....	1,040	.....	50,666	91,008
	11	30,262	124,436	34	583	.....	.....	3,930	621	170,731	330,597
	11W	25,177	116,848	23	236	.....	.....	6,602	.....	95,341	244,227
	14	51,782	339,997	115	1,490	.....	.....	11,812	.....	364,110	769,306
	14M	4,959	22,430	.....	.....	.....	.....	.....	.....	7,449	34,838
	15	1,495,252	6,321,787	1,839	14,761	.....	.....	281,132	68,965	4,367,914	12,551,650
	15 Express	19,357	101,592	30	405	.....	.....	6,359	2,086	66,354	196,183
	16	267,442	1,399,664	628	4,453	.....	.....	74,545	25,809	1,072,996	2,845,537
	17	7,248	34,814	38	86	.....	.....	2,228	.....	25,734	70,148
	18	33,742	176,703	54	686	.....	.....	6,896	.....	280,786	498,867

18M	13,263	76,202	15	219	.....	.....	5,874	.....	119,391	214,964
19	485,597	2,840,367	814	7,681	.....	.....	129,059	59,391	2,041,752	5,564,661
20	114,638	584,127	130	1,089	.....	.....	31,093	516	388,303	1,119,896
21	111,183	649,493	128	805	.....	.....	31,102	.....	487,721	1,280,432
22	1,884	11,960	.....	.....	.....	.....	.....	18	7,967	21,829
23	9,512	52,983	26	88	.....	.....	2,921	.....	49,251	114,781
24	375,301	2,525,139	663	5,294	.....	.....	107,293	43,598	1,948,945	5,006,233
25	101,898	405,515	82	643	.....	.....	20,053	.....	298,434	826,625
26	356,773	1,811,330	553	4,080	.....	.....	82,985	.....	1,219,307	3,475,028
27	152,129	848,536	268	2,048	.....	.....	36,258	.....	534,505	1,573,744
29	128,386	514,449	163	1,978	.....	.....	24,178	.....	448,883	1,118,037
31	88,944	540,172	132	986	.....	.....	28,810	2,239	351,649	1,012,932
36	86,941	467,036	141	1,002	.....	.....	20,108	.....	210,446	785,674
42	632,264	2,535,188	783	4,871	.....	.....	119,844	26,212	1,896,141	5,215,303
50	135,584	511,174	161	1,485	.....	.....	23,348	.....	526,194	1,197,946
51	116,747	480,647	236	2,050	.....	.....	27,039	.....	473,125	1,099,844
52	80,310	233,695	74	714	.....	.....	11,271	.....	319,115	645,179
53	52,666	339,442	93	737	.....	.....	14,107	.....	445,731	852,776
54	167,036	741,655	154	982	.....	.....	28,438	.....	687,900	1,626,165
55	90,415	709,211	207	1,067	.....	.....	29,803	.....	307,664	1,138,367
57	28,511	143,207	51	166	.....	.....	5,900	.....	41,759	219,594
60	513	3,092	.....	.....	.....	.....	.....	20	2,436	6,061
70	73,830	362,827	67	510	.....	.....	14,389	.....	289,572	741,195
71	2,739	9,740	.....	5	.....	.....	800	.....	42,282	55,566
72	20,472	117,206	.....	32	.....	.....	2,061	.....	126,884	266,655
73	40	209	.....	.....	.....	.....	.....	.....	105	354
74	820	4,739	.....	.....	.....	.....	58	.....	3,961	9,578
75	1,385	12,057	.....	.....	.....	.....	.....	.....	12,533	25,975
76	76	394	.....	.....	.....	.....	.....	.....	370	840
C	1,260	7,852	.....	44	.....	.....	.....	.....	5,615	14,771
E	37,104	261,202	238	914	.....	.....	13,869	3,175	201,738	518,240
F	213	1,053	.....	.....	.....	.....	.....	4	1,048	2,318
H	11,104	53,096	21	20	.....	.....	622	12	46,351	111,226
*2C	2,164	5,891	.....	.....	.....	.....	.....	.....	3,275	11,330
*5C	222	866	.....	.....	.....	.....	.....	.....	503	1,591
†A and B	166	29	.....	.....	.....	.....	.....	.....	.....	195
†C	1,502	3,110	.....	.....	.....	.....	.....	.....	1,418	6,030
Powell Cable Emergency	140	605	.....	.....	.....	.....	.....	.....	543	1,288
Charter	.....	.....	.....	.....	131,972	.....	.....	.....	.....	131,972
Total	7,175,662	35,887,706	10,723	86,279	131,972	.....	1,614,464	251,553	27,993,785	73,152,144

*American Legion Convention Service.
†Shrine Convention Service.

MUNICIPAL RAILWAY OF SAN FRANCISCO
COMPARATIVE STATEMENT OF OPERATING DATA
Fiscal Years Ended June 30, 1947 and June 30, 1946

	Fiscal Year Ended June 30, 1947				Fiscal Year Ended June 30, 1946			
	Total	Ratio to Passenger Revenue	Per Car and Coach Mile	Per Car and Coach Hour	Total	Ratio to Passenger Revenue	Per Car and Coach Mile	Per Car and Coach Hour
Passenger Revenue	$18,890,017	100.000	.6283	5.7875	$17,290,400	100.000	.5870	5.4077
Operating Expense	16,526,518	87.487	.5497	5.0633	13,356,166	77.246	.4534	4.1772
Interest	117,804	.624	.0039	.0361	156,891	.907	.0053	.0491
Provision for Depreciation	1,073,838	5.685	.0357	.3290	1,018,793	5.892	.0346	.3186
Provision for Accidents	1,889,002	1.000	.0628	.5787	1,729,758	10.004	.0587	.5410
Taxes	14,116	.075	.0005	.0043	11,922	.069	.0004	.0037
Net Income	*531,150*	*2.812*	*.0177*	*.1627*	1,077,036	6.229	.0366	.3369
Passenger Car, Cable Car and Coach Mileage	30,063,299	.....	....	....	29,454,947	.....	.....	.....
Passenger Car, Cable Car and Coach Hours	3,263,950	.....	....	....	3,197,392	.....	.....	.....
Platform Expense: Passenger Car, Cable Car and Coach	8,218,237	43.505	.2734	2.5179	6,506,335	37.630	.2209	2.0349
Revenue Passengers Carried	224,003,684	.....	7.4511	68.6296	244,450,767	.....	8.2991	76.4532
Free Transfer Passengers Carried	90,619,380	.....	3.0143	27.7637	81,535,884	.....	2.7682	25.5007
*Free Passengers (Employees, Police, etc.)	.....	.....	....	....	20,742	.....	.0007	.0065
Total Passengers Carried	314,623,064	.....	10.4654	96.3933	326,007,393	.....	11.0703	101.9604

*Not recorded in 1946-1947.

	1947	1946
Number of Employees	4,099	4,178
Rate of Fare—Free Transfer:		
July 1, 1945 to May 19, 1946	8⅓c	7c
May 20, 1946 to June 30, 1946 (7c—cash or token; 8⅓c—token; 10c—cash)	10c	8⅓c-10c
Miles of Single Track:		
Owned and Operated (including Spurs, Turnouts, Sidings and Car House Tracks)		
Electric	247.702	277.571
Cable	6.820	6.820
Owned and Operated—Total	254.522	284.391
Owned, Non-operated:		
Electric	40.958	13.254
Cable	4.008	4.008
Owned, Non-operated—Total	44.966	17.262
Total Single Track Owned	299.488	301.653
Motor Coach Routes:		
Round Trip Miles of Street Traversed	342.020	224.810
Trolley Coach Routes:		
Round Trip Miles of Street Traversed	24.330	17.000

	1947	1946
Number of Passenger Electric Cars Owned	599	659
Number of Passenger Cable Cars Owned	38	38
Number of Passenger Motor Coaches Owned	253	218
Number of Passenger Motor Coaches Leased	19	19
Number of Passenger Trolley Coaches Owned	34	18
Total Number of Passenger Equipment Units Owned and Leased	943	952
Number of Electric Work Cars Owned	30	31
Number of Motor Trucks Owned	54	55
Number of Passenger Automobiles Owned	24	12
Number of Motorcycles Owned	13	13
Number of Trailers Owned	39	37
Number of Tractors Owned	2	2
Number of Gasoline Rail Inspection Cars Owned	2	2
Total Number of Service Units Owned	164	152

Italic figures denote loss and deficiency.

MUNICIPAL RAILWAY OF SAN FRANCISCO
STATEMENT OF CAR AND COACH MILEAGE AND CAR AND COACH HOURS OPERATED AND TOTAL PASSENGERS CARRIED

Period December 28, 1912 to June 30, 1947

Year	Car and Coach Mileage	Car and Coach Hours	Total Passengers Carried
12/28/12 to 12/31/13	1,300,869	129,050	9,723,177
1/ 1/14 to 12/31/14	3,282,012	362,333	27,933,049
1/ 1/15 to 6/30/15	3,112,910	368,841	24,670,130
7/ 1/15 to 6/30/16	6,358,543	737,214	47,886,784
7/ 1/16 to 6/30/17	5,317,270	580,717	36,234,723
7/ 1/17 to 6/30/18	6,935,090	766,997	62,396,036
7/ 1/18 to 6/30/19	7,212,763	779,746	59,341,253
7/ 1/19 to 6/30/20	7,419,272	795,578	66,169,246
7/ 1/20 to 6/30/21	7,538,737	806,761	69,960,834
7/ 1/21 to 6/30/22	7,677,307	811,292	70,757,908
7/ 1/22 to 6/30/23	8,148,703	853,157	73,633,760
7/ 1/23 to 6/30/24	8,676,611	900,224	77,736,617
7/ 1/24 to 6/30/25	8,897,271	921,280	79,900,645
7/ 1/25 to 6/30/26	9,302,073	961,451	83,390,908
7/ 1/26 to 6/30/27	9,428,522	975,949	83,603,652
7/ 1/27 to 6/30/28	9,657,311	999,243	85,281,171
7/ 1/28 to 6/30/29	9,903,754	1,028,345	85,683,664
7/ 1/29 to 6/30/30	10,186,213	1,054,514	87,673,608
7/ 1/30 to 6/30/31	10,114,999	1,042,925	85,250,762
7/ 1/31 to 6/30/32	9,770,683	995,524	80,123,238
7/ 1/32 to 6/30/33	9,251,492	918,120	71,815,286
7/ 1/33 to 6/30/34	8,875,788	876,820	73,063,608
7/ 1/34 to 6/30/35	8,937,287	883,914	78,849,085
7/ 1/35 to 6/30/36	8,751,421	867,581	79,116,866
7/ 1/36 to 6/30/37	8,763,838	872,873	80,754,084
7/ 1/37 to 6/30/38	9,212,687	919,678	90,290,519
7/ 1/38 to 6/30/39	9,810,068	1,003,126	107,739,849
7/ 1/39 to 6/30/40	10,058,316	1,049,720	111,305,527
7/ 1/40 to 6/30/41	10,266,038	1,064,439	108,822,011
7/ 1/41 to 6/30/42	10,389,525	1,083,008	113,956,341
7/ 1/42 to 6/30/43	11,322,394	1,191,164	142,896,226
7/ 1/43 to 6/30/44	12,100,522	1,278,151	167,348,356
7/ 1/44 to 6/30/45	24,811,168	2,678,453	295,306,166
7/ 1/45 to 6/30/46	29,454,947	3,197,392	326,007,393
7/ 1/46 to 6/30/47	30,063,299	3,263,950	314,623,064
12/28/12 to 6/30/47	352,309,703	37,019,530	3,459,245,546

MUNICIPAL RAILWAY OF SAN FRANCISCO
SINGLE TRACK ELECTRIC AND CABLE MILEAGE AND MILES OF MOTOR AND TROLLEY COACH ROUTES
June 30, 1947

		Operated	Non-Operated	Total
MUNICIPAL RAILWAY DIVISION—ELECTRIC:				
Main Track		68.069	.....	.....
Trackage in Carhouses, Sidings, Turnouts, etc.:				
Bridge Loop	.166	.....	.....	.....
Taraval St. between 46th and 48th Avenues	.250	.....	.....	.....
Masonic Avenue Spur	.020	.....	.....	.....
Polk and Geary Streets Spur	.050	.....	.....	.....
Geary Carhouse, Sidings and Turnouts	2.180	.....	.....	.....
Potrero Carhouse, Sidings and Turnouts	1.650	.....	.....	.....
Ferry Spur	.023	4.339	.....	.....
Union Street		.....	5.080	.....
Total		72.408	5.080	77.488
MARKET ST. EXTENSION DIVISION—ELECTRIC:				
Main Track, San Francisco		130.294	.....	.....
Main Track, San Mateo		27.664	.....	.....
Sidings and Turnouts, San Francisco		16.940	.....	.....
Sidings and Turnouts, San Mateo		.396	.....	.....
Non-Operated Track, San Francisco		.....	35.620	.....
Non-Operated Track, San Mateo		.....	.258	.....
Total		175.294	35.878	211.172
Total Single Track—Electric		247.702	40.958	288.660
MARKET ST. EXTENSION DIVISION—CABLE:				
Main Track		6.109	.....	.....
Sidings and Turnouts		.016	.....	.....
Carhouse and Shops		.695	.....	.....
Non-Operated Track		.....	4.008	.....
Total Single Track—Cable		6.820	4.008	10.828
Total Single Track—Electric and Cable		254.522	44.966	299.488

Motor Coach Routes—Round Trip Miles of Street Traversed	342.02
Trolley Coach Routes—Round Trip Miles of Street Traversed	24.33
Total Coach Routes—Round Trip Miles of Street Traversed	366.35

MUNICIPAL RAILWAY OF SAN FRANCISCO
COST STATEMENT—ITEMIZED ACCOUNTS
Fiscal Year July 1, 1946, to June 30, 1947
ELECTRIC STREET CAR OPERATION ONLY
I—WAY AND STRUCTURES

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
1	Superintendence of Way & Structures	$59,953.15	.00327	.02884
2	Ballast	865.70	.00005	.00042
3	Ties	7,239.31	.00039	.00348
4	Rails	4,347.54	.00024	.00209
5	Rail Fastenings and Joints	16,924.92	.00092	.00814
6	Special Work	4,281.02	.00023	.00206
8	Track and Roadway Labor	355,177.48	.01940	.17086
9	Misc. Track and Roadway Expenses	11,897.54	.00065	.00572
10	Paving	169,680.00	.00927	.08163
11	Cleaning and Sanding Tracks	59,893.82	.00327	.02881
13	Tunnels and Subways	603.83	.00003	.00029
15	Bridges, Trestles and Culverts	1,849.45	.00010	.00089
16	Crossings, Fences, Guards and Signs	6,929.62	.00038	.00333
17	Signal and Interlocking Apparatus	3,776.55	.00021	.00182
18	Telephone and Telegraph Lines	1,780.62	.00010	.00086
19	Miscellaneous Way Expenses	236.57	.00001	.00011
20	Poles and Fixtures	20,248.70	.00111	.00974
21	Underground Conduits	35.88	.00002	.00002
22A	Overhead Feeders	4,636.64	.00025	.00223
22B	Underground Feeders	3,003.65	.00016	.00145
22C	Track Bonding	1,212.34	.00007	.00058
22D	Overhead Trolleys	85,276.73	.00466	.04102
23	Miscellaneous Electric Line Expenses	52.65	.00000	.00003
24B	Substations	14.00	.00000	.00001
24C	Car Houses	11,577.87	.00063	.00557
24D	Shops	7,584.68	.00041	.00365
24E	General Offices	4,123.45	.00023	.00198
24F	Stations, Waiting Rooms & Platforms	4,852.22	.00026	.00233
24H	Misc. Buildings and Structures	5,380.23	.00029	.00259
28.3	Dismantling Retired Way & Structures	26,466.47	.00145	.01273
28	Transportation for Investment: Credit	*6,430.29*	*.00035*	*.00309*
	Total—Way and Structures	$873,472.34	.04771	.42019

II—EQUIPMENT

29	Superintendence of Equipment	$18,540.46	.00101	.00892
30	Passenger and Combination Cars	626,907.04	.03425	.30158
32	Service Equipment	1,307.41	.00007	.00063
33	Electrical Equipment of Cars	277,038.85	.01513	.13327
36	Shop Equipment, Machinery and Tools	12,601.58	.00069	.00606
37	Shop Expenses	30,349.33	.00166	.01460
38	Vehicles and Horses	31,265.93	.00171	.01504
41	Store Expense Clearing	3,935.52	.00022	.00190
44.3	Dismantling Retired Equipment	79.57	.00000	.00004
	Total—Equipment	$1,002,025.69	.05474	.48204

Italic figures denote loss and deficiency.

III—POWER

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
45	Superintendence of Power	$7,448.06	.00041	.00358
46	Power Plant	1,014.30	.00005	.00049
47	Power Plant Equipment	1,140.00	.00006	.00055
48	Substation Equipment	1.45	.00000	.00000
52	Power Plant Employees	110,589.61	.00604	.05320
56	Misc. Power Plant Sup. and Expenses.	13.12	.00000	.00001
58	Substation Supplies and Expenses	4,385.39	.00024	.00211
59	Power Purchased for Operation	1,039,912.55	.05681	.50026
59A	Power Purchased for Lighting Carbarns	8,637.57	.00047	.00416
59B	Power Purchased for Lighting Tunnels	1,650.48	.00009	.00079
	Total—Power	$1,174,792.53	.06417	.56515

IV—CONDUCTING TRANSPORTATION

63	Superintendence of Equipment	$610,737.06	.03336	.29380
64A	Conductors	3,227,052.61	.17628	1.55241
64B	Motormen	3,021,783.35	.16507	1.45367
66	Miscellaneous Car Service Employees	19,215.65	.00105	.00924
67B	Lubricants and Waste	11,189.19	.00061	.00538
67C	Special Agents and Fare Registers	12,283.06	.00067	.00591
67D	Incandescent Lamps	3,723.78	.00020	.00179
67E	Miscellaneous Car Service Expenses	23,582.41	.00129	.01134
68	Station Employees	16,693.88	.00091	.00803
69	Station Expenses	8,850.72	.00049	.00426
70	Car House Employees	473,928.54	.02589	.22799
71	Car House Expenses	19,994.06	.00109	.00962
72	Operation of Signal and Interlocking Apparatus	10,165.73	.00056	.00489
73	Operation of Telephone and Telegraph System	30,989.05	.00169	.01491
78	Misc. Transportation Expenses	12,139.80	.00066	.00584
	Total—Conducting Transportation	$7,502,328.89	.40982	3.60908

VI—GENERAL AND MISCELLANEOUS

83	Sal. and Exp. of General Officers	$43,711.92	.00239	.02103
84	Sal. and Exp. of General Office Clerks.	255,288.71	.01395	.12281
85	General Office Supplies and Expenses.	9,151.63	.00050	.00440
88	Pension and Gratuities	452,874.58	.02474	.21786
88B	Sick Leave—Railway Employees	251,201.01	.01372	.12084
88D	Sick Leave—Medical Expense	4,023.65	.00022	.00194
88F	Military Leave—Members' Contrib.	*3,341.94*	*.00018*	*.00161*
89	Miscellaneous General Expenses	20,414.14	.00112	.00982
92D	Compensation—Injuries and Damages, Employees	75,271.63	.00411	.03621

Italic figures denote loss and deficiency.

(Continued on page 350)

COST STATEMENT—ELECTRIC STREET CAR OPERATION—(Continued)

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
93	Fire Insurance	11,071.74	.00060	.00533
94	Stationery and Printing	20,210.84	.00110	.00972
94A	Tickets and Transfers	31,230.04	.00171	.01503
95	Stores Expense	56,857.77	.00311	.02735
96	Garage Expense	6,231.89	.00034	.00300
98	Rent of Equipment	*787.70*	*.00004*	*.00038*
	Credit Charges to Trolley Coach Oper.	*95.90*	*.00001*	*.00005*
	Credit Charges to Motor Coach Oper..	*6,885.82*	*.00038*	*.00331*
	Total—General and Miscellaneous	$1,226,428.19	.06700	.58999

RECAPITULATION—ELECTRIC STREET CAR OPERATION ONLY

1A	Accounts 1 to 11 Inclusive	$690,260.48	.03771	.33206
1B	Accounts 13 to 28 Inclusive	183,211.86	.01000	.08813
I	Way and Structures—Total Accounts 1 to 28 Inclusive	873,472.34	.04771	.42019
II	Equipment	1,002,025.69	.05474	.48204
III	Power	1,174,792.53	.06417	.56515
IV	Conducting Transportation	7,502,328.89	.40982	3.60908
VI	General and Miscellaneous	1,226,428.19	.06700	.58999
	Total—Operating Expenses	$11,779,047.64	.64344	5.66645
	Depreciation Reserve $1,073,837.58			
	Less Applicable to Cable Cars and Coaches 261,842.92	$811,994.66	.04436	.39062
	Accident Reserve $1,889,001.67			
	Less Applicable to Cable Cars and Coaches 470,341.09	1,418,660.58	.07749	.68246
	Interest During Acquisition $85,721.02			
	Bond Interest 32,083.34	$117,804.36		
	Less Applicable to Cable Cars and Coaches 77,486.86	40,317.50	.00220	.01940
	Taxes—Street Cars Only	14,116.15	.00077	.00679
	Total Costs—Electric Street Cars	$14,064,136.53	.76826	6.76572
	Car Mileage 18,306,441			
	Car Hours 2,078,734			

Italic figures denote loss and deficiency.

CABLE STREET CAR OPERATION ONLY

I—WAY AND STRUCTURES

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
C1	Superintendence of Way and Structures	$693.97	.00151	.00826
C4	Rails—Cable Cars	118.83	.00026	.00141
C5	Rail Fastenings and Joints—C.C.	868.41	.00190	.01033
C6	Special Work—C.C.	16.65	.00004	.00020
C7	Underground Construction—C.C.	2,209.96	.00482	.02630
C8	Track and Roadway Labor—C.C.	41,159.39	.08984	.48980
C9	Misc. Track and Roadway Expense, C.C.	4.35	.00001	.00005
C10	Paving—C.C.	4,307.89	.00940	.05126
C11	Cleaning and Sanding Tracks, C.C.	31,502.26	.06876	.37488
C16	Crossings, Fences and Signs, C.C.	175.00	.00038	.00208
C17	Signal and Interlocking Systems, C.C.	1,520.93	.00332	.01810
C24C	Car Houses—C.C.	706.83	.00154	.00841
C24D	Shops—C.C.	146.31	.00032	.00174
C24E	General Offices, C.C.	19.50	.00004	.00023
C24H	Misc. Buildings and Structures, C.C.	10.50	.00002	.00013
	Total—Way and Structures	$83,460.78	.18216	.99318

II—EQUIPMENT

C29	Superintendence of Equipment, C.C.	$464.56	.00101	.00553
C30	Passenger and Combination Cars, C.C.	29,319.28	.06399	.34890
C33	Grips and Dies, C.C.	13,736.90	.02998	.16347
C36	Shop Equip., Machinery & Tools, C.C.	636.12	.00139	.00757
C37	Shop Expenses, C.C.	1,039.10	.00227	.01236
C41	Store Expense Clearing—C.C.	167.09	.00037	.00199
	Total—Equipment	$45,363.05	.09901	.53982

III—POWER

C45	Superintendence of Power, C.C.	$5,472.57	.01194	.06512
C46	Power Plant Buildings, Fixtures and Grounds, C.C.	13.24	.00003	.00016
C47-1	Power Plant Equipment, C.C.	739.86	.00162	.00880

(Continued on page 352)

COST STATEMENT—CABLE STREET CAR OPERATION—(Continued)

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
C47-2	Power Plant Equipment, Cables.....	43,393.83	.09471	.51638
C52	Power Plant Employees, C.C.....	31,797.49	.06940	.37839
C56	Misc. Power Plant Supplies and Expenses, C.C.....	651.03	.00142	.00775
C59	Power Purchased for Operation.....	14,745.52	.03219	.17547
	Total—Power	$96,813.54	.21131	1.15207
	IV—CONDUCTING TRANSPORTATION			
C63	Superintendence of Transportation, C.C.	$15,671.10	.03420	.18649
C64	Cable Car Operators, C.C.....	248,796.69	.54303	2.96067
C66	Misc. Car Service Employees, C.C.....	592.47	.00129	.00705
C67B	Lubricants and Waste, C.C.....	302.49	.00066	.00360
C67C	Special Agents & Fare Registers, C.C.	305.08	.00067	.00363
C67D	Incandescent Lamps, C.C.....	5.40	.00001	.00006
C67E	Cleaning Materials and Misc. Sup., C.C.	600.16	.00131	.00714
C69	Station Expenses, C.C.....	150.00	.00033	.00178
C70	Labor: Cleaning, Washing, Greasing and Servicing, C.C.....	17,135.24	.03740	.20391
C71	Building Expenses and Services, C.C...	350.39	.00077	.00417
C72	Operation Signal and Interlocking Apparatus, C.C.	8,293.34	.01810	.09869
C73	Operation Telephone and Telegraph Lines, C.C.	778.08	.00170	.00926
C78	Misc. Transportation Expenses, C.C...	65.29	.00014	.00078
	Total—Conducting Transportation	$293,045.73	.63961	3.48723
	VI—GENERAL AND MISCELLANEOUS			
C83	Salaries and Expenses—General Officers, C.C.	$1,093.17	.00239	.01301
C84	Salaries and Expenses—General Office Clerks, C.C.....	6,385.85	.01394	.07599
C85	General Office Supplies and Expenses..	232.44	.00051	.00277
C88	Pension Costs, C.C.....	16,547.22	.03612	.19691
C88B	Sick Leave, C.C.....	1,612.81	.00352	.01919
C88D	Sick Leave, Medical Fees, C.C.....	152.45	.00033	.00181

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
C88F	Military Leave, Members' Contrib., C.C.	*138.94*	*.00030*	*.00165*
C89	Miscellaneous General Expenses.....	496.76	.00108	.00591
C92D	Compensation—Injuries and Damages, Employees, C.C.	3,045.57	.00665	.03624
C93	Fire Insurance, C.C.....	650.29	.00142	.00774
C94	Stationery and Printing, C.C.....	510.68	.00111	.00608
C94A	Tickets and Transfers, C.C.....	776.21	.00169	.00924
C95	Store Expenses, C.C.....	1,396.09	.00305	.01661
C96	Fuel and Servicing Auto Service Equipment, C.C.	156.71	.00034	.00186
	Total—General and Miscellaneous	$32,917.31	.07185	.39171
	RECAPITULATION—CABLE CAR OPERATION ONLY			
1A	Accounts 1 to 11 Inclusive.....	$80,881.71	.17653	.96249
1B	Accounts 13 to 28 Inclusive.....	2,579.07	.00563	.03069
I	Way and Structures—Total Accounts 1 to 28 Inclusive.....	83,460.78	.18216	.99318
II	Equipment	45,363.05	.09901	.53982
III	Power	96,813.54	.21131	1.15207
IV	Conducting Transportation	293,045.73	.63961	3.48723
VI	General and Miscellaneous.....	32,917.31	.07185	.39171
	Total—Operating Expenses	$551,600.41	1.20394	6.56401
	Depreciation Reserve	$20,027.49	.04371	.23833
	Injuries and Damages.....	50,318.13	.10983	.59878
	Total—Reserves	$70,345.62	.15354	.83711
	Interest on Investment.....	$8,334.60	.01819	.09918
	Total Costs—Cable Street Cars.....	$630,280.63	1.37567	7.50030

Cable Street Car Mileage.....458,162

Cable Street Car Hours..... 84.034

Italic figures denote loss and deficiency

MOTOR COACH OPERATION ONLY

I—WAY AND STRUCTURES

Acct. No.	Name	Amount	Per Coach Mile	Per Coach Hour
B1	Superintendence & Engineering, M.C.	$15,834.30	.00152	.01571
B16	Crossings, Fences and Signs, M.C.	569.95	.00005	.00057
B18	Telephone and Telegraph Lines, M.C.	24.50	.00000	.00002
B24D	Motor Coach Garage	6,193.00	.00060	.00615
B24E	Repairs to General Offices, M.C.	287.39	.00003	.00029
	Total—Way and Structures	$22,909.14	.00220	.02274

II—EQUIPMENT

B29	Superintendence of Equipment, M.C.	$10,585.37	.00102	.01051
B36	Shop Equip., Machinery & Tools, M.C.	6,494.27	.00062	.00644
B37	Garage Expenses, M.C.	7,365.46	.00071	.00731
B39	Misc. Equipment Repairs, M.C.	2,889.94	.00028	.00287
B39A	Motor Coach Engines	296,921.47	.02851	.29467
B39B	Motor Coach Painting	12,405.29	.00119	.01231
B39C	Motor Coach Chassis	67,338.88	.00647	.06683
B39D	Motor Coach Tires and Tubes	122,472.69	.01176	.12155
B39E	Motor Coach Bodies	108,492.95	.01042	.10767
B39G	Motor Coach Transmission	57,269.73	.00550	.05684
B39H	Motor Coach Brakes	54,877.23	.00527	.05446
B41	Store Expense Clearing, M.C.	2,039.28	.00020	.00202
	Total Equipment	$749,152.56	.07195	.74348

III—POWER

B59A	Power for Lighting Carbarns, M.C.	$677.29	.00006	.00067
	Total—Power	$677.29	.00006	.00067

IV—CONDUCTING TRANSPORTATION

B63	Superintendence of Transportation, M.C.	$342,057.12	.03285	.33947
B64	Motor Coach Operators	1,581,578.77	.15189	1.56961
B67B	Lubricants and Waste, M.C.	29,125.15	.00280	.02890
B67C	Special Agents & Fare Registers, M.C.	7,123.15	.00068	.00707
B67E	Cleaning Materials and Misc. Supplies, M.C.	8,078.05	.00078	.00802
B68A	War Emergency Exp., M.C. System	619.63	.00006	.00061
B69	Station Expenses, M.C.	705.50	.00007	.00070
B70	Labor: Cleaning, Washing, Greasing and Servicing, M.C.	297,796.74	.02860	.29554
B71	Building Expenses and Services, M.C.	5,678.79	.00054	.00564
B73	Operation of Telephone and Telegraph Lines, M.C.	17,863.06	.00172	.01773
B78	Misc. Transportation Expenses, M.C.	21,684.34	.00208	.02152
B78A	Gasoline, M.C.	355,098.19	.03410	.35241
	Total—Conducting Transportation	$2,667,408.49	.25617	2.64722

VI—GENERAL AND MISCELLANEOUS

Acct. No.	Name	Amount	Per Coach Mile	Per Coach Hour
B83	Salaries and Expenses, General Officers, M.C.	$24,814.44	.00238	.02463
B84	Salaries and Expenses, General Office Clerks, M.C.	145,029.23	.01393	.14393
B85	General Office Supplies and Expenses, M.C.	5,463.22	.00052	.00542
B88	Pension Costs, M.C.	109,759.30	.01054	.10893
B88B	Sick Leave—M.C. Employees	43,571.73	.00418	.04324
B88D	Sick Leave—Medical Fees, M.C.	1,231.16	.00012	.00122
B88F	Military Leave, Members' Contrib., M.C.	*671.99*	*.00006*	*.00067*
B89	Miscellaneous General Expenses, M.C.	11,174.56	.00107	.01109
B92D	Compensation—Injuries and Damages, Employees, M.C.	18,375.90	.00177	.01824
B93	Fire Insurance, M.C.	2,913.93	.00028	.00289
B94	Stationery and Printing, M.C.	11,789.79	.00113	.01170
B94A	Tickets and Transfers, M.C.	17,435.94	.00167	.01730
B95	Store Expenses, M.C.	31,972.84	.00307	.03173
B96	Fuel and Servicing Auto Service Equipment, M.C.	3,596.67	.00035	.00357
B98	Rent of Equipment—Service Truck, 9,600 Hrs. @ 60c	5,760.00	.00055	.00572
B98A	Garage, Shop, Office and Equip. Rental	1,125.82	.00011	.00112
B98B	Rent of Motor Coaches	17,863.34	.00172	.01773
B98C	Motor Coach Use by Trolley Coach Line: Credit	*5,185.05*	*.00050*	*.00514*
	Total General and Miscellaneous	$446,020.83	.04283	.44265

RECAPITULATION—MOTOR COACH OPERATION ONLY

I	Way and Structures	$22,909.14	.00220	.02274
II	Equipment	749,152.56	.07195	.74348
III	Power	677.29	.00006	.00067
IV	Conducting Transportation	2,667,408.49	.25617	2.64722
VI	General and Miscellaneous	446,020.83	.04283	.44265
	Total—Operating Expenses	$3,886,168.31	.37321	3.85676
	Depreciation Reserve	$222.262.19	.02135	.22058
	Injuries and Damages	377,821.20	.03629	.37496
	Total Reserves	$600,083.39	.05764	.59554
	Interest on Investment	$58,426.88	.00561	.05799
	Total Costs—Motor Coaches	$4,544,678.58	.43646	4.51029

Motor Coach Mileage.....10,412,688

Motor Coach Hours..... 1,007,625

Italic figures denote loss and deficiency.

TROLLEY COACH OPERATION ONLY

I—WAY AND STRUCTURES

Acct. No.	Name	Amount	Per Coach Mile	Per Coach Hour
T1	Superintendence and Engineering, T.C.	$1,352.82	.00152	.01446
T16	Crossings, Fences and Signs, T.C.	161.00	.00018	.00172
T17	Signals and Interlocking Systems, T.C.	5.62	.00001	.00006
T20	Poles and Fixtures, T.C.	23.35	.00002	.00025
T22A	Overhead Feeders, T.C.	6.56	.00001	.00007
T22D	Overhead Trolleys, T.C.	9,433.01	.01065	.10083
T24D	Trolley Coach Shop	77.05	.00009	.00082
T24F	Stations, Waiting Rooms and Platforms, T.C.	24.35	.00003	.00026
	Total—Way and Structures	$11,083.76	.01251	.11847

II—EQUIPMENT

T29	Superintendence of Equipment, T.C.	$903.59	.00102	.00966
T30	Miscellaneous Equipment Repairs, T.C.	2,634.26	.00297	.02816
T30A	Painting Trolley Coaches	3,173.47	.00358	.03392
T30B	Bodies, Labor and Material, T.C.	4,621.41	.00522	.04940
T30C	Axles, Wheels and Springs, Labor and Material, T.C.	5,732.77	.00647	.06127
T30D	Tires and Tubes, Including Repairs, T.C.	12,841.90	.01449	.13726
T30E	Brakes, Labor and Material, T.C.	1,661.65	.00188	.01776
T33	Electrical Propulsion Equipment, T.C.	4,152.83	.00469	.04439
T36	Shop Equipment, Machinery and Tools, T.C.	28.88	.00003	.00031
T37	Shop Expenses, T.C.	146.19	.00017	.00156
T41	Store Expense Clearing, T.C.	187.35	.00021	.00200
	Total—Equipment	$36,084.30	.04073	.38569

III—POWER

T52	Power Plant Employees, T.C.	$5,372.88	.00606	.05743
T59	Power for Operation, T.C.	29,954.03	.03381	.32017
	Total—Power	$35,326.91	.03987	.37760

IV—CONDUCTING TRANSPORTATION

T63	Superintendence of Transportation, T.C.	$29,060.11	.03280	.31062
T64	Trolley Coach Operators	139,025.80	.15691	1.48600
T66	Misc. Car Service Employees, T.C.	791.01	.00089	.00846
T67B	Oils and Lubricants, T.C.	410.04	.00046	.00438
T67C	Special Agents & Fare Registers, T.C.	528.92	.00060	.00565
T67D	Incandescent Lamps, T.C.	9.00	.00001	.00010
T67E	Cleaning Materials and Misc. Supplies, T.C.	112.76	.00013	.00121
T69	Station Expenses, T.C.	534.50	.00060	.00571
T70	Labor: Cleaning, Washing, Greasing and Servicing, T.C.	13,335.97	.01505	.14254

Acct. No.	Name	Amount	Per Coach Mile	Per Coach Hour
T73	Operation of Telephone and Telegraph Lines, T.C.	1,528.15	.00173	.01633
T78	Misc. T.C. Transportation Expenses	476.55	.00054	.00509
	Total—Conducting Transportation	$185,812.81	.20972	1.98609
	VI—GENERAL AND MISCELLANEOUS			
T83	Salaries and Expenses of General Officers, T.C.	$2,130.49	.00240	.02277
T84	Salaries and Expenses of General Office Clerks, T.C.	12,360.55	.01395	.13212
T85	General Office Sup. and Expenses, T.C.	463.86	.00052	.00496
T88	Pension Costs, T.C.	9,950.01	.01123	.10635
T88B	Sick Leave, T.C.	2,225.96	.00251	.02379
T88D	Sick Leave, Medical Fees, T.C.	112.74	.00013	.00121
T88F	Military Leave, Members' Contr., T.C.	*44.37*	*.00005*	*.00047*
T89	Miscellaneous General Expenses, T.C.	949.78	.00107	.01015
T92D	Compensation—Injuries and Damages, Employees, T.C.	1,698.87	.00192	.01816
T93	Fire Insurance, T.C.	697.08	.00079	.00745
T94	Stationery and Printing, T.C.	1,024.72	.00116	.01095
T94A	Tickets and Transfers, T.C.	1,513.13	.00171	.01617
T95	Store Expense, T.C.	2,725.25	.00308	.02913
T96	Fuel and Servicing Auto Service Equipment, T.C.	305.10	.00034	.00326
T98A	Shop, Office and Equipment Use, T.C.	95.90	.00011	.00103
T98C	Motor Coach Use by T.C. Line	5,185.05	.00585	.05542
	Total—General and Miscellaneous	$41,394.12	.04672	.44245
	RECAPITULATION—TROLLEY COACH OPERATION ONLY			
I	Way and Structures	$11,083.76	.01251	.11847
II	Equipment	36,084.30	.04073	.38569
III	Power	35,326.91	.03987	.37760
IV	Conducting Transportation	185,812.81	.20972	1.98609
VI	General and Miscellaneous	41,394.12	.04672	.44245
	Total—Operating Expenses	$309,701.90	.34955	3.31030
	Depreciation Reserve	$19,553.24	.02207	.20900
	Injuries and Damages	42,201.76	.04763	.45108
	Total Reserve	$61,755.00	.06970	.66008
	Interest on Investment	$10,725.38	.01210	.11464
	Total Costs—Trolley Coaches	$382,182.28	.43135	4.08502

Trolley Coach Mileage.....886,008
Trolley Coach Hours..... 93,557

Italic figures denote loss and deficiency.

RECAPITULATION—SYSTEM
ELECTRIC AND CABLE STREET CARS AND MOTOR AND TROLLEY COACHES

	Amount	Per Coach or Car Mile	Per Coach or Car Hour
Operating Expense	$16,526,518.26	.54972	5.06335
Depreciation Reserve	1,073,837.58	.03572	.32900
Accident Reserve	1,889,001.67	.06284	.57875
Interest During Acquisition	$85,721.02		
Bond Interest	32,083.34	117,804.36	.00392	.03609
Taxes	$14,116.15	.00047	.00432
Grand Total	$19,621,278.02	.65267	6.01151

Total Operating Expense—Electric and Cable Street Cars and Motor and Trolley Coaches	$16,526,518.26	
Total Electric and Cable Street Car and Motor and Trolley Coach Mileage		30,063,299
Total Electric and Cable Street Car and Motor and Trolley Coach Hours		3,263,950
Total Expense per Electric and Cable Street Car and Motor and Trolley Coach Mile		.54972
Total Expense per Electric and Cable Street Car and Motor and Trolley Coach Hour		5.06335

	Mileage	Hours
Electric Street Cars	18,306,441	2,078,734
Cable Street Cars	458,162	84,034
Trolley Coaches	886,008	93,557
Motor Coaches	10,412,688	1,007,625
Total	30,063,299	3,263,950

Gross Revenue	$19,090,127.90
Total Operating Expense	16,526,518.26
Ratio of Operating Expense to Gross Revenue	.87

MUNICIPAL RAILWAY OF SAN FRANCISCO
CHRONOLOGY

December 2, 1902—Election. Proposition authorizing $700,000 bonds defeated.

October 8, 1903—Election. Proposition authorizing $710,000 bonds defeated.

November 6, 1903.—Franchise of Geary Street, Park and Ocean Railroad Company expired.

June, 1906.—Budget appropriation $325,000 for Geary Street Railroad. Used for reconstruction and rehabilitation of streets and buildings destroyed in disaster of April 18-22, 1906.

June, 1907.—Budget appropriation $720,000, for Geary Street Railroad. Subsequently declared invalid by court.

June 24, 1909.—Election. Proposition authorizing $1,950,000 bonds defeated, lacking 203 votes.

December 30, 1909.—Election. Proposition authorizing $2,020,000 bonds carried by 20,000 majority.

April 16, 1910.—Superior Court declares bond issue valid in every respect. Decision affirmed by Supreme Court in July, 1910.

July 18, 1910.—First lot of bonds, $121,000, sold.

Summer, 1911.—Construction of Geary Street Railroad commenced.

May 5, 1912.—The Geary Street, Park and Ocean Railroad (cable system) ceased operations.

December 28, 1912.—The Municipal Railway (overhead trolley system) commenced operation on Geary Street from Kearny Street to Thirty-third Avenue and Park, with ten (10) cars, under direction of Thomas A. Cashin, Superintendent, Mayor James Rolph, Jr., acting as motorman on first car.

April 22, 1913.—Referendum election. Agreement with Sutter Street Railroad Company respecting use of tracks on lower Market Street ratified.

June 25, 1913.—Municipal Railway in full operation from Ferries to Beach and Park. Forty-three cars owned.

August 26, 1913.—Election. Proposition authorizing $3,500,000 bonds for extensions of Municipal Railway carried by 37,670 majority.

December 11, 1913.—Presidio and Ferries R. R. Company (Union Street Division) taken over by Municipal Railway.

May 16, 1914.—Masonic Avenue branch completed.

August 15, 1914.—Van Ness Avenue line from Market Street in operation to Exposition grounds.

September 7, 1914.—Potrero Avenue line in operation, Eleventh and Market Streets to Twenty-fifth Street and Potrero Avenue.

December 29, 1914.—Stockton Street, Columbus Avenue and North Point line in operation through tunnel.

December 29, 1914.—Fort Mason Loop commenced operation.

February 10, 1915.—Columbus Avenue line in operation from Ferries to Exposition grounds.

February 19, 1915.—California Street line in operation to Thirteenth Avenue.

March 28, 1915.—California Street line in operation to Thirty-third Avenue.

April 25, 1915.—Beach Loop, Geary Street line, commenced operation.

January 24, 1916.—Stockton Street branch ("E") in operation from Presidio to Market, Fourth and Ellis Streets.

April 29, 1916.—Church Street line (Sect. "C"), Sixteenth to Eighteenth and Twenty-second to Thirtieth Streets, ready for operation.

June 1, 1916.—Columbus Avenue ("J" line), Ferries to Exposition grounds discontinued.

June 12, 1916.—Church Street line (Sect. "A"), Van Ness Avenue and Market Street to Sixteenth and Church Streets, started by day labor. Held up by United Railroads injunction.

June 28, 1916.—Church Street line (Sect. "B"), Eighteenth to Twenty-second Streets, ready for operation.

December 21, 1916.—Potrero Avenue line ("H") extended from Twenty-fifth Street to Army Street. Twenty-two hundredths mile added. Placed in operation January 19, 1917.

August 11, 1917.—Church Street line ("J"), Van Ness Avenue and Market Street to Church and Thirtieth Streets, commenced operation.

February 3, 1918.—Twin Peaks tunnel line ("K") to Van Ness Avenue and Bush Street commenced operation. (Length of tunnel 11,920 feet.)

May 4, 1918.—Greenwich Street extension (Van Ness Avenue line), Scott to Baker Street, commenced operation.

June 1, 1918.—Market Street lines ("J" and "K"), Van Ness Avenue to Geary Street, commenced operation, establishing through service, Ferries to Sloat Boulevard.

October 30, 1918.—Third loop opened at Ferry terminus.

February 21, 1919.—Market Street line ("K") commenced operation over United Railroads' tracks on Ocean Avenue to Miramar Avenue.

April 12, 1919.—Taraval Street line ("L") commenced operation from West Portal of Twin Peaks tunnel to Thirty-third Avenue, operating co-jointly with the United Railroads on Taraval Street between Twentieth Avenue and Thirty-third Avenue.

May 18, 1919.—Market Street line ("K") commenced operation over extension along Ocean and Brighton Avenues to Grafton Avenue.

July 22, 1919.—Changed and shortened route of Van Ness Avenue line ("D") and Union Street line ("E") by track connection on Union Street between Franklin Street and Van Ness Avenue.

August 7, 1919.—One elevator placed in operation at Forest Hill station of Twin Peaks Tunnel.

December 8, 1919.—Presidio loop, Van Ness Avenue and Union Street lines, commenced operation.

January 14, 1923.—Taraval Street line ("L") commenced operation over extension on Taraval Street, between Thirty-third Avenue and Ocean Beach.

October 15, 1923.—Taraval Street line ("L") operated as a through line from Beach to Ferries via Twin Peaks tunnel and Market Street.

October 6, 1925.—Line "M" commenced operation between Plymouth Avenue and Broad Street to St. Francis Circle.

February 1, 1928.—Second elevator (the largest on the Pacific Coast) installed at Forest Hill station of Twin Peaks tunnel.

October 21, 1928.—Line "N" commenced operation between Forty-eighth Avenue and Judah Street and the Ferries.

January 8, 1932.—Jurisdiction over the San Francisco Municipal Railway was transferred from the Board of Public Works to the San Francisco Public Utilities Commission under provisions of the new charter.

June 1, 1932.—Line "O" commenced operation between Van Ness Avenue and Market Street and the Presidio (a rearrangement of lines "D," "E," and "H").

July 15, 1932.—Line "O" abandoned and lines "D," "E" and "H" placed on their original routing.

December 5, 1932.—Line "A" discontinued.

December 5, 1932.—Bus Route No. 1 extended to Tenth Avenue and Lake Street.

January 3, 1933.—Bus Route No. 2 discontinued.

January 30, 1933.—Bus Route No. 1 North Terminal changed to Tenth Avenue and California Street.

December 5, 1933.—Bus Route No. 1 South Terminal changed to Edna Street and Monterey Boulevard.

July 28, 1935.—Bus Route No. 6 commenced operation. Eureka Valley Station to Diamond and Clipper Streets.

September 15, 1937.—Line "L" extension to Fleishhacker Pool commenced operation.

January 1, 1938.—Bus Route No. 5 Marina Route routed over Broderick Street instead of Divisadero Street.

May 8, 1938.—Bus Route No. 6 South Terminal changed to Diamond and Duncan Street.

January 15, 1939.—Bay Bridge trains started operation to Bridge Terminal. Alternate Municipal Railway cars operated over Bay Bridge loop.

June 25, 1939. Bus Route No. 6 rerouted over Castro, Nineteenth, Eureka, Twenty-third, Diamond, Clipper, Church, Twenty-fifth, Collingwood, and Market Streets.

July 9, 1939.—Bus Route No. 8 commenced operation from Judah Street and Seventeenth Avenue to Taraval Street and Fifteenth Avenue.

July 23, 1939.—Bus Route No. 7 commenced operation from Forest Hill Station to Rio Court.

July 30, 1939.—Bus Route No. 11 commenced operation from Union and Powell Streets to Coit Tower, Telegraph Hill.

August 6, 1939.—Bus Route No. 9 commenced operation from Potrero Avenue and Army Street to Bacon and Somerset Streets.

August 6, 1939.—Bus Route No. 10 commenced operation from Balboa Terrace to San Jose Avenue and Plymouth Avenue.

August 6, 1939.—Car line "M" discontinued and replaced by Bus Route No. 10.

August 24, 1939.—Bus Route No. 10 Northern Terminal extended from Balboa Terrace to St. Francis Circle.

October 14, 1939.—Bus Route No. 6 Southern Terminal extended to South Van Ness Avenue and Twenty-third Street.

October 15, 1939.—Bus Route No. 10 Southern Terminal extended to Sickles Avenue and Mission Street.

October 30, 1939.—Bus Route No. 9 Southern Terminal extended to San Bruno Avenue and Ware Street.

December 27, 1939.—Five new modern stream-lined passenger cars were placed in service.

July 2, 1940.—Bus Route No. 12 commenced operation from Beale and Howard Streets to Army Street and South Van Ness Avenue.

July 7, 1940.—Bus Route No. 12 Eastern Terminal extended from Beale and Howard Streets to Market Street and the Embarcadero.

November 18, 1940.—Bus Route No. 1 extended to San Francisco Junior College on school days.

January 1, 1941.—Lines "B," "D," "K" and "N" Eastern Terminal changed to Bridge Terminal and lines "C," "J" and "L" Eastern Terminal changed to Ferry Terminal from alternate cars of each line to Bridge and Ferry Terminals.

March 23, 1941.—Bus Route No. 2 commenced operation from Twenty-second Avenue and Irving Street to Thirty-fifth Avenue and Noriega Street.

March 23, 1941.—Bus Route No. 3 commenced operation from Thirtieth and Church Streets to Sickles and Huron Avenues.

March 23, 1941.—Bus Route No. 8 discontinued.

March 23, 1941.—Bus Route No. 10 Northern Terminal extended from St. Francis Circle to Nineteenth Avenue and Irving Street.

April 6, 1941.—Bus Route No. 14 commenced operation from Noe Street and Duboce Avenue to Haight and Belvedere Streets.

May 5, 1941.—Bus Route No. 3 changed from Church Street, Day Street, and Dolores Street to Thirtieth Street, Sanchez Street and Randall Street.

May 19, 1941.—Bus Route No. 14 Eastern Terminal changed from Noe Street and Duboce Avenue to Church and Market Streets.

June 8, 1941.—Bus Route No. 7 Southern Terminal changed from Rio Court to Teresita Boulevard and Melrose Avenue.

September 7, 1941.—Line "R" commenced operation with trolley coaches from Army Street and South Van Ness Avenue to Beale and Howard Streets.

September 7, 1941.—Bus Route No. 12 discontinued between Army Street and Beale Street.

September 8, 1941.—Bus Route No. 12 operated as a shuttle service from line "R" between Beale and Howard Streets and Market Street and the Embarcadero.

September 29, 1941.—Bus Route No. 14 changed between Seventeenth and Ashbury Streets and Cole and Carl Streets.

December 8, 1941.—Bus Route No. 10 extended to Twenty-fifth Avenue and California Street.

January 4, 1942.—Bus Route No. 10 consolidated with Bus Route No. 3. Bus Route No. 10 discontinued.

January 4, 1942.—Bus Route No. 12 (shuttle) discontinued.

March 16, 1942.—Ferry Terminal outside loop discontinued.

April 12, 1942.—Bus Route No. 3 extended to Sea Cliff Avenue.

May, 1942.—Outside loop at Ferry removed.

June 10, 1942.—Bay Bridge Terminal—middle loop and switch tower discontinued.

July, 1942.—Present outside loop at Ferry connected to tracks of Embarcadero North Terminal.

December 1, 1942.—Mutual interchange of transfers in effect with all lines of the California Street Cable Railroad Company.

February 10, 1943.—Bus Route No. 6 changed between Diamond and Duncan Streets and Castro and Twenty-fifth Streets.

August 8, 1943.—Mutual interchange of transfers with the California Cable Railroad Company which went into effect December 1, 1942, was discontinued.

May 16, 1944.—Primary and Special Election. Purchase of operative properties of the Market Street Railway by payment of $2,000,000 in cash and $5,500,000 from earnings of acquired Market Street Railway properties. Approved. For—108,621; Against—84,078; a majority of 24,543.

A summary of other elections which failed of passage from November 3, 1925, to April 20, 1943, for purchase of the Market Street Railway Company properties and for Municipal Railway expansion follows:

November 3, 1925.—General Municipal Election. Initiative measure for bond issue of $36,000,000 for purchase of Market Street Railway Company's properties. Not approved. For—12,435; Against—87,315.

June 14, 1927.—Special Election for bond issue of $4,700,000 for extensions to the Municipal Railway. Not approved. For—44,412; Against—25,791.

November 7, 1933.—General and Special Election for bond issue of $63,000 for extension of line from Taraval Street and Forty-sixth Avenue. Not approved. For—76,438; Against—68,330.

November 2, 1937.—General Election for bond issue for $49,250,000 for constructing subways and acquiring a Rapid Transit System. Not approved. For—68,834; Against—95,246.

September 27, 1938.—Special Election—Proposition No. 8—Bond issue of $24,480,000 to purchase operating properties of the Market Street Railway Company. Not approved. For—52,680; Against—93,979.

November 8, 1938.—General Election. Declaration of policy—Proposition No. 4—Purchase of Market Street Railway Company operating property for an amount not exceeding $5,000,000. Not approved. For—49,932; Against—128,320.

Proposition No. 5—Declaration of policy—City to issue $9,000,000 bonds for passenger buses and facilities therefor to be used with property of the Market Street Railway Company if acquired or as adjunct of Municipal Railway. Not approved. For—49,948; Against—128,466.

November 3, 1942.—General Election. Acquisition of operative properties of Market Street Railway Company financed by issuance of revenue bonds in amount $7,950,000. Not approved. For—96,003; Against—102,081.

April 20, 1943. Special Election. Purchase of operative properties of Market Street Railway Company for $7,950,000 to be financed by issuance of revenue bonds. Not approved. For—53,619; Against—88,418.

September 29, 1944.—At 5:00 a.m. on this date, the operative properties of the Market Street Railway Company system were merged with those of the Municipal Railway system and were operated as a consolidated system.

October 15, 1944.—Free interchange of transfers in effect with lines of the California Street Cable Railroad; fare on that company's lines increased to 7 cents.

December 11, 1944.—Contract was awarded for the removal of the outer tracks and the replacement of the inner tracks on Market Street, Valencia Street to Castro Street. Work was performed under Municipal Railway contract No. 192—replacement job No. 1410, and was completed October 25, 1945.

December 17, 1944.—Line "M" (Ocean View) reestablished operation which had been discontinued on August 6, 1939.

January 7, 1945.—All motor coach operations, including maintenance, repairs, housing, and dispatching, centralized at the 24th and Utah Streets garage, and garage at 3708 Geary Boulevard discontinued.

August 15, 1945.—Gasoline rationing ended.

December 30, 1945.—Tire rationing ended.

May 20, 1946.—Fare rate increased from 7 cents cash or token to 10 cents cash or $8\frac{1}{3}$ cents token rate.

June 30, 1946, to July 3, 1946, inclusive.—No operation for four days on account of strike conditions.

October 6, 1946.—Sunset Express motor coach service commenced with extension of route No. 2 to Golden Gate Avenue and Taylor Street. Express service from Nineteenth Avenue to Van Ness Avenue.

November, 1946.—Inner tracks on Church Street, Market to Seventeenth Street and Twenty-fifth to Twenty-seventh Street replaced. Outer tracks Market Street to Sixteenth Street removed. Work performed under replacement job No. 1607.

November 5, 1946.—General election. Charter amendment approved amending section 151.3 fixing average of two highest wage schedules in other street railways in effect July 1 of each year as rate for Municipal Railway. Vote—Yes, 181,059; No, 55,557.

December 8, 1946.—Haight Street car house abandoned.

January 6, 1947.—Central control with radio station KCRJ inaugurated at the Geary Street car house.

January 9, 1947.—First three of forty electrical headway recorders in operation in Central Control. Total of twenty in operation on June 30, 1947.

March 10, 1947.—Land for new motor coach garage in block bounded by Beach, Stockton, North Point, and Powell Streets purchased at cost of $183,400.

May 20, 1947.—Inner tracks on Market Street from Fremont Street to Eddy Street replaced under replacement job No. 1646M—contract No. 253.

June 9, 1947.—Street car service discontinued on line "E"—replaced by trolley coaches from Pierce and Union Streets to Beale and Howard Streets and by motor coaches from Pierce to Lyon Street.

November 4, 1947.—General election. General Obligation Bonds voted—$20,000,000 Municipal Railway Rehabilitation Bonds; $2,200,000 Market Street Railway Debt Retirement Bonds; $22,850,000 Street Reconstruction, Traffic Signal, and Track Removal Bonds, and $5,000,000 Parking Facility Bonds. All approved by approximately three to one margin. See details in foregoing section of report.

November 4, 1947.—General election. Charter amendment making mandatory retention of present and existing municipally owned cable car system. Approved. Yes—167,462; No—51,541.

July 1, 1946 to June 30, 1947.—Changes in car lines and coach routes. See complete statement of all changes of car lines and coach routes made during the fiscal year ended June 30, 1947, following section of this report captioned "Transportation."

June 30, 1947.—Total Single Track Mileage:

Owned and Operated (Including spurs, turnouts, sidings, and car house tracks):	
Electric	247.702
Cable	6.820
Total operated track	254.522

Owned Non-Operated:	
Electric	40.958
Cable	4.008
Total non-operated	44.966
Total single track owned	299.488
Motor Coach Routes—Round trip miles of street traversed	342.020
Trolley Coach Routes—Round trip miles of street traversed	24.330
Total Coach Routes—Round trip miles of street traversed	366.350

Note: For details of car line and coach route numbers and names, see statement in foregoing section of this report.